THE

AGRICULTURAL BULLETIN

OF THE

FEDERATED MALAY STATES.

No. 2.] APRIL, MAY & JUNE, 1920. [Vol. VIII.

THE PLANTERS' LOANS BOARD, FEDERATED MALAY STATES.

By D. St. L. Parsons.

Preamble.

THE Government of the Federated Malay States originally resolved to lend financial assistance to the development of the agricultural resources of the country in the year 1905.

So little was known of the splendid fertility of the virgin soil of the country at that time and the number of estates in actual being so few, that applications for assistance for the first two to three years were negligible but as time went on and the prospects of the successful cultivation of the Para rubber tree (*Hevea braziliensis*) and the coconut palm became more widely known, with the alienation of considerable tracks of country for the purpose bringing an influx of capital and a largely increased population, these industries —particularly rubber—rapidly assumed considerable importance. People—of all nationalities—already in the country, began to take a keen interest in the cultivation of the rubber tree and with the great development work going on all round and the evident desire of all to extend their agricultural interests, the Government system of loans to planters steadily expanded and to such an extent that the Administration found itself somewhat seriously handicapped in coping with applications for assistance.

With a roll of 136 properties—both large and small—benefitting from the fund to the extent of nearly $4,000,000 and numerous applications still pouring in, Government towards the end of the year 1913 decided it would be expedient to put the whole system on a more satisfactory footing and with this end in view an Advisory Board to review the whole position and handle all new applications was appointed and a permanent staff engaged.

This Board which consisted of—

The Director of Agriculture, Federated Malay States and Straits Settlements (Chairman)

The British Resident of Selangor

Two Leading Planters and

The Head of one of the largest Mercantile Concerns in the country

came into being early in 1914 and continued in an advisory capacity until towards the end of the year 1915 when a special Enactment was introduced and passed in Council creating it an executive body under the style and title of "The Planters' Loans Board, Federated Malay States."

Constitution.

The Board is a body corporate and by the name of "The Planters' Loans Board" has continuous succession and has and may use a common seal and may acquire, hold, dispose of and otherwise deal with movable and immovable property and may sue and be sued in all Courts and in all manner of suits and proceedings and may do all other matters and things incidental to or appertaining to a body corporate. The members of the Board who shall number not less than three nor more than seven are nominated by the Chief Secretary to Government, Federated Malay States, and of whom not more than half may be officers employed in the Public Service.

The Chief Secretary also nominates the Chairman.

All nominations must be published in the *Government Gazette.*

Members ordinarily retain their membership for a period of five years, unless expressly nominated for a shorter period, but are at liberty to resign at any time. Members who absent themselves from the Federated Malay States for a period exceeding two months are deemed to have resigned their membership.

The Chief Secretary has power to remove any member from the Board or from the Chairmanship at any time by notification in the *Government Gazette.*

The Board as at present constituted consists of :

The Director of Agriculture, Federated Malay States and Straits Settlements (Chairman)

Hon. Mr. R. C. M. Kindersley, Member, Federal Council, (Planter)

R. M. Skinner, Esqr., J.P. (Estate Agent)

D. F. Topham, Esqr., J.P. („)

E. M. Baker, Esqr., Treasurer, Selangor, and Assistant Treasurer, Federated Malay States

i.e., two members are officers in the Public Service and three are unofficial members.

Funds.

The capital of the Fund is limited to $4,000,000, a sum set aside by Government from public moneys for the purpose. The Treasury acts as Bankers to the Board in so far as the Board draws on the Treasury for all moneys required (subject to the limit of $4,000,000).

Inversely all moneys collected by the Board are paid in to the Treasury.

Interest.

Interest is charged by the Board at such rate or rates as may be in force at the time of making loans.

The usual rate is 7 per cent.* and of all interest collected, 75 per cent. is credited to public revenues while the Board retains 25 per cent. towards paying administration expenses and the creation of a Reserve Fund to meet possible bad debts.

Loans.

Loans heretofore have been made only to planters (i.e., Planting Limited Liability Companies, Private Syndicates and Individuals) but the powers of the Board are being extended to admit of loans being made to Co-operative Agricultural Societies and to Native Agriculturists. Loans are granted exclusively for the benefit of land situate within the boundaries of the Federated Malay States and as a general rule are expressly for the purpose of assisting immature properties to reach the producing stage. They are given for a varying period of years having regard to the age of the clearings at the time the loan is granted and the date when it may reasonably be expected the property will be in a position to repay from revenue.

The loans are usually issued by monthly instalments on the production of satisfactory accounts for the preceding month and the instalments may be withheld at any time if the Board has any doubt that the money is not being properly expended or if the property is adversely reported on.

The two principal agricultural industries in Malaya—rubber and coconuts—are to date the only commodities which have derived any benefit from the Fund though the Board is at all times open to entertain sympathetically applications for assisting the cultivation of other agricultural products—such, for instance, as the African oil palm (*Elaeis*) and the lime fruit tree which are being grown experimentally on a commercial scale with promising results.

Loans to returned Ex-Service men under the Government "War Service Land Grant Scheme" are to be made from the Planters' Loans Fund and will be managed and controlled by the Board.

Security.

The security required for all loans granted is a charge (mortgage) registered under the laws of the country in force for the time being on the land for the benefit of which the money is lent and in the absence of any express stipulation to the contrary, the following conditions are implied in all charges:

(*a*) that the chargor will properly and judiciously use the moneys secured by the charge for the purposes for which the same are by the terms of the charge expressed to be advanced to him and will not use such moneys for any other purpose whatsoever;

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* Since raised to 8 per cent.

(*b*) that the chargor will pay at the times and in the manner required by the terms of the charge all amounts accruing due thereunder, whether by way of interest or otherwise;

(*c*) that the chargor will duly comply with all conditions and obligations attaching to the title for the land charged, whether in respect of cultivation, building, payment of rent or otherwise, and will keep all buildings on the said land in good repair;

(*d*) that the chargor will not transfer to any other person any portion of his interest in the land charged without the written consent of the Board under its common seal;

(*e*) that the chargor will furnish month by month to the Board proper accounts of revenue from and expenditure on the land charged and such other information as the Board may from time to time require;

(*f*) that the chargor will insure and keep insured in the name of and to the satisfaction of the Board all buildings, machinery and plant in or upon the land charged, except such as may be exempted by agreement, and all produce of the land charged from the harvesting of such produce until the sale thereof and that proper evidence of such insurance shall be produced to the Board from time to time as required;

(*g*) that no dividend or bonus shall be paid to any person out of the profits arising from the land charged until all moneys secured by the charge shall have been paid to the Board in full;

(*h*) that all profits arising from the land charged which are not required for the due cultivation and maintenance thereof shall be devoted to the payment to the Board of the moneys secured by the charge;

(*i*) that the chargor will pay to the Board on demand all expenses which may from time to time be incurred by the Board in the employment of a person or persons to visit, inspect and report on the land charged;

(*j*) that the chargor will pay to the Board on demand all costs, charges and expenses whatsoever which may be paid or incurred by the Board in any exercise of its rights or powers occasioned by default of the chargor in the observance or performance of any undertaking or condition expressed or by the Enactment or otherwise implied in the charge;

(*k*) that no part of the land charged which is not cultivated at the date of the execution of the charge shall without the written consent of the Board under its common seal be cultivated until all moneys secured by the charge shall have been paid to the Board in full.

Inspections.

All properties benefitting from the Fund are periodically inspected and reported on for the information of the Board. As a general rule some well-known planter resident near the property in question is employed at a nominal fee to undertake the work and the borrowers are required by law to bear the expense of such visits.

Staff.

The Board occupies offices situate in the business centre of the town of Kuala Lumpur (the capital of the Federated Malay States) and employs its own staff entirely unassociated with the Public Service.

Meetings.

The Board meets regularly twice every month and more often if necessary.

Accounts.

Full and proper accounts of all transactions are kept by the Board which are subject to an audit at least once in every year by such person or persons as may be appointed for the purpose by the Chief Secretary to Government and before the 31st day of March in every year renders to Government a balance sheet and other relative documents setting out fully the position of the Fund at the close of business on the 31st day of December accompanied by a report on the working of the Fund during the preceding 12 months.

General.

There is little doubt that the policy of the Government in inaugurating the Fund has been of considerable benefit towards the agricultural development of the country and there are many residents—both past and present—who have good reason to bless the Administration for rendering aid in times of stress and in seeing them through their difficulties. In general, this applies equally to all times but in particular to the year of the outbreak of the Great War (1914) when the financial stress was so great that many properties would have gone to the wall had it not been for the assistance given by the Planters' Loans Fund and again in the year 1918 when owing to the uncertainty of the whole situation and the ruinous prices obtaining for the produce, the rubber industry passed through a very nerve-racking crisis.

On the other hand, Government has been amply repaid inasmuch as (1) no losses have been incurred, (2) a moderate and reasonable rate of interest on the moneys lent has been regularly earned, (3) the benefits—both direct and indirect—derived from the development of the country have been enormous and (4) Government has the satisfaction of seeing both the rubber and copra industries established on a sound and flourishing basis.

SYNOPSIS OF THE BOARD'S WORK, 1916–1919.

(A).—LOANS.

1916.

No. of loans as at 1st January		129	$3,685,266.43
,, applications dealt with	26		
Refused and/or still pending	17		
	—	9	231,100.00
		138	3,916,366.43
No. of loans repaid		47	1,614,583.04
,, ,, as at 31st December		91	$2,301,783.39

Analysis.

Cultivation.	No. of estates.	Total cultivated area.	Amount of loans.	Amount per cultivated acre.
Rubber	78	22,886¾	$1,975,800.14	$86.15
Rubber and coconuts combined	9	2,603	210,983.25	81.05
Coconuts	4	1,733	115,000.00	66.35
	91	27,222¾	$2,301,783.39	$84.55

1917.

No. of loans as at 1st January		91	$2,301,783.39
,, applications dealt with	29		
Refused and/or still pending	19		
	—	10	250,085.00
		101	2,551,868.39
No. of loans repaid		35	906,281.80
,, ,, as at 31st December		66	$1,645,586.59

Analysis.

Cultivation.	No. of estates.	Total cultivated area.	Amount of loans.	Amount per cultivated acre.
Rubber	53	13,872¾	$1,217,383.34	$87.75
Rubber and coconuts combined	7	1,765	158,918.25	90.04
Coconuts	6	3,423½	269,285.00	78.66
	66	19,061¼	$1,645,586.59	$86.28

1918.

No. of loans as at 1st January	...	66 ...	$1,645,586.59
„ applications dealt with 83			
Refused and/or still pending 51			
—	...	32 ...	1,282,142.75
		98 ...	2,927,729.34
No. of loans repaid		11 ...	380,583.44
„ „ as at 31st December	...	87 ...	$2,547,145.90

Analysis.

Cultivation.	No. of estates.	Total cultivated area.	Amount of loans.	Amount per cultivated acre.
Rubber ...	74 ...	22,490¾ ...	$2,088,085.65 ...	$92.84
Rubber and coconuts combined ...	7 ...	1,528 ...	141,918.25 ...	92.87
Coconuts ...	6 ...	3,423½ ...	317,142.00 ...	92.63
	87 ...	28,442¼ ...	$2,547,145.90 ...	$92.82

1919.

No. of loans as on 1st January	...	87 ...	$2,547,145.90
„ applications dealt with 59			
Refused and/or still pending 29			
—	...	30 ...	1,069,572.00
		117 ...	$3,616,717.90
No. of loans repaid	...	27 ...	992,863.60
„ „ as on 31st December	...	90 ...	$2,623,854.30

Analysis.

Cultivation.	No. of estates.	Total cultivated area.	Amount of loans.	Amount per cultivated acre.
Rubber ...	81 ...	22,038¼ ...	$2,257,167.30 ...	$102.42
Rubber and coconuts combined ...	4 ...	1,243¾ ...	64,500.00 ...	51.86
Coconuts ...	5 ...	2,426 ...	302,187.00 ...	124.56
	90 ...	25,708 ...	$2,623,854.30 ...	$102.06

(B).—Interest.

	Collected.	Retained.	Credited to public revenues.
1916 ...	$209,034.01	$ 52,258.51	$156,775.50
1917 ...	131,955.70	32,988.93	98,966.77
1918 ...	91,963.94	22,990.98	68,972.96
1919 ...	150,278.26	37,569.56	112,708.70
	$583,231.91	$145,807.98	$437,423.93

(C).—Reserve Fund.

Balance as on 31st December, 1915...	$260,000
Added during 1916	40,000
„ 1917	20,000
„ 1918	20,000
„ 1919	10,000
Balance as on 31st December, 1919...	$350,000

So far no bad debts have been incurred and the money standing to the credit of the "Reserve Fund" is all invested in War Loan Stocks, the interest derived therefrom being nearly sufficient to cover the whole of the Board's expenses of administration.

ALLEGED DAMAGE CAUSED BY INSECTS ON STORED RUBBER SEED.

By G. H. Corbett and D. Ponniah.

SINCE rubber seed ceased to be in demand for planting purposes, and especially when the large areas under rubber came into bearing the utilization of rubber seed as a source of oil and seed cake was considered by commercial firms and planters.

From a study of the article on "The Oil Content, Keeping Qualities and Commercial Possibilities of Para Rubber Seed" in the *Agricultural Bulletin* of the Federated Malay States, No. 5, Vol. VI, dated February, 1918, it would appear that the manufacture of rubber seed oil with its residual product should be successful.

A few months ago an enquiry was received by the Department of Agriculture with regard to alleged damage caused by insects to a considerable quantity of stored rubber seed.

The Acting Government Entomologist, at that time, reported, after having visited the Oil Mills, that there were several species of insects found in the seeds but he was unable to say how much injury, if any, resulted directly from them, how much was due to fungi, or what should be ascribed to damaged seed prior to storing, and drew up a scheme of experiments to ascertain the best means of storing the seed to prevent ravages from insect and fungoid attacks.

The Senior writer, soon after his arrival in Malaya, took the opportunity of visiting the Mills and came to the conclusion that, though a very small percentage of seeds contained a beetle, *Tribolium ferrugineum, Fabr.*,—an almost universal pest of stored products—and species of scavenger beetles, the problem was mycological not entomological since the majority of seeds showed signs of the presence of a fungus.

Experiments were conducted in the entomological laboratory to see if the beetles could enter sound seed and it was found that they were unable to do so.

A large number of apparently sound seeds was examined and no grub or beetle was found inside them, but, on the other hand, a few damaged seeds contained both grubs and beetles.

From the experiments conducted and counts made it seems necessary that the kernel has to be exposed before the beetle can enter the seed.

It might be mentioned that the seed is collected by different estates and sent direct to the Mills where it is stored in sacks in open sheds. No provision for drying the seed before storing is made and it is stated in the already quoted article, page 234, "The sun-dried seeds packed in bags maintained a perfect state of preservation".

If some method was adopted to arrest the growth of the fungus, the writers are convinced that no complaints of insect damage would be reported.

CULTIVATION OF SUGAR-CANE.

THE following notes on the cultivation of sugar-cane are published for general information. The writer is indebted to the Hon. Mr. W. Duncan for much of the information contained therein.

Sugar-cane (*Saccharum officinarum*) is a tall grass or reed belonging to the natural order *Gramineae*, which is found in a cultivated state in all tropical countries, reaching a height of from 8 to 12 feet.

The chief countries in which cane-sugar is produced are Mauritius, Guiana, Hawaii, India, Java, Philippines and the West Indies.

Varieties of Sugar-cane.

The variety of sugar-cane which is most suitable for cultivation in this country is the "Ribbon." It yields a fair weight of cane per acre and has a medium saccharine content, but its greatest virtue is its power to withstand disease.

The ordinary yellow cane, which is grown locally by Chinese, contains a juice equally rich in sugar which is more easily dealt with in the factory, but its chief drawback is its liability to disease and attacks from borers.

It is possible by growing seedlings and selection of these to procure varieties of cane which are more or less resistant to disease and there is little doubt that the ordinary yellow cane could be improved by these means, besides this, selected varieties might be introduced from other tropical countries with a view to obtaining higher yielding canes than those already established locally.

Soil and Climate.

The plant requires a hot humid climate, alternating with dry periods and thrives best at low elevations on flat land, which if on tidal rivers would not only allow of proper drainage, but would provide a ready means of transport of the cane to the factory.

The most suitable soils are sandy loams, clayey loams, and alluvial soils containing a fair proportion of clay, whilst soils of volcanic origin give good results, such volcanic areas are small and not well defined in this country. Light sandy soils, heavy clay or peaty land are all unsuitable and should be avoided.

Good surface drainage is absolutely necessary as the plant cannot withstand the ill-effects of a water-logged soil.

The crop is an exhausting one and manuring is necessary after the first or second crop. Nitrogen appears to be the chief ingredient of plant food which requires replenishing, but the amount required varies according to the nature of the soil, and can only be settled by experiment and chemical analysis.

Seasons for Planting.

The best results are obtained when the plants are put in at the beginning of the wet season as they require sufficient rains for the first three or four months in order that they may become well developed before the dry season approaches. A drought immediately after planting will only lead to disaster. From the eighth month to the time of harvesting dry weather is desirable in order to ripen the cane thoroughly and therefore obtain the maximum amount of saccharine.

The most suitable seasons for planting would appear to be March/April and September/October.

Preparation of Land.

The land should be thoroughly clean and free from weeds and changkolled or forked to a depth of six to seven inches until it is brought into a fine state of tilth and then made up into ridges five to six feet apart. If the conditions allow of it a tractor may be employed in ploughing, cultivating and harrowing the land previous to planting.

Methods of Planting.

Although any part of the sugar-cane containing two or three live "buds" can be planted it is the usual practice to plant only the top parts of the cane, which contain less sugar. A top should contain at least two clear rings, together with a portion of the stem covered by the bases of the leaves, each top will then have several eyes or buds. The "tops" or sections are placed in the furrows between the ridges, which as previously stated are five to six feet apart, at intervals of two and a half to four feet. They should be placed in an oblique position in the ground and all but a small portion covered with earth, which should be firmly pressed down.

To avoid replanting the old canes may be allowed to "ratoon," i.e., grow up from the root stocks. In certain parts of the West Indies as many as 12 successive ratoon crops are harvested, but ratooning is very seldom practised in this country as it is not profitable and is only resorted to on areas which are reaped late, in order to save time and labour. Ratoons, as a general rule, give a lower yield of cane than plants.

Labour.

The labour requirements for sugar cultivation are fairly heavy and on the average at least one unit of Indian labour would be required per acre, but in cases where mechanical power is made use of, it should be possible to reduce the amount of labour considerably below the figure given above.

Cultivation.

For the first six months after planting it is necessary to maintain the soil in a friable condition by changkolling in order to allow of the development of the surface roots. In the early stages of growth the use of mechanical power for cultivating will reduce expenses considerably.

Period of Growth.

As a rule canes grown from plants take about 12 months to come to maturity, but if a second or subsequent crop is allowed to grow up from the old roots it will mature in from 9 to 11 months. The latter procedure is termed "ratooning" and, as previously pointed out, is only practised when circumstances make replanting impracticable.

It is well known that some varieties ripen earlier than others, whilst climatic conditions during the ripening stage may accelerate or retard the period of growth.

Harvesting.

Shortly after flowering, when the canes become hardened and ripe, as seen from their general appearance, they should be cut as close to the ground as possible because the nearer the root the better the sugar content. After cutting, the canes are usually tied in bundles of a size sufficient for one cooly to carry and then transferred to punts or bullock-carts for transport to the factory.

Yields.

Under favourable conditions the average weight of cane per acre from plants in this country is about 25 tons, which would yield about 2 tons of vacuum pan sugar or $2\frac{1}{2}$ tons of basket sugar per acre.

A sugar content of 12 per cent. and a recovery of 10 per cent. of the weight of cane would be a fair average for types of cane at present grown in this country, but there is little doubt that by careful selection and breeding it should be possible to produce improved strains, which would have a considerably higher sugar content than the figure given above.

The average weight of cane from ratoons would only be about 18 to 20 tons per acre.

Manufacture.

There are two distinct methods of manufacture, one in which vacuum pan sugar is produced and the other from which an article known as basket sugar is obtained. The former process is elaborate and expensive whilst the latter is somewhat crude and requires less machinery, with the result that the product is less valuable.

In both cases the first operation is to express the juice from the cane, and this should be done as quickly as possible after the canes are cut, as the cane juice is normally acid, and fermentation sets in very quickly.

The canes are put through machinery which either crushes or macerates the canes longtitudinally. The sweet saccharine juice which is obtained is afterwards submitted to processes of clarifying (in which unslaked lime is used to neutralize the acids) then heating, filtering and bleaching. The fibrous material which is left after the juice has been extracted is known as "Megass" and is used as fuel for the evaporating pans and machinery.

With ordinary metal rollers it is possible to extract about 85 per cent. of the juice in the cane, but with modern machinery as much as 90 to 95 per cent. of the juice is extracted.

Vacuum pan sugar is made by subjecting the juice to a sequence of treatments, the main objects of which are the arresting of fermentation by heating, the counteraction of acidity by the application of lime, the evaporation of water by boiling at low temperatures in a series of vacuum vessels, granulation in a single vacuum vessel by further evaporation, and the separation of the grains of sugar from the molasses and other bye-products by centrifugal force.

Molasses consist chiefly of sucrose (crystallizable sugar) glucose (uncrystallizable sugar) and water, and is a very valuable bye-product from which rum is manufactured.

It is estimated by a well-known local authority that a factory fully equipped and capable of dealing with 15,000 tons of sugar per annum would cost, at present prices, about £250,000.

In the manufacture of basket sugar, the cane juice is neutralized in the ordinary way, boiled in open tanks or pans to a given consistency, where the scum is taken off at intervals as it forms, then run out into shallow wooden trays, stirred and cooled quickly, during which operations the mass forms into grains resembling fine sand. It contains all impurities and yields no bye-products.

General.

Formerly granulated sugar only fetched from $5 to $8 per pikul (133⅓ lbs.) whilst the cost of production varied from $4 to $6 per pikul.

It is estimated that under present conditions the cost of production would be about £25 per ton or say $12 per pikul.

In view of the increasing demand for sugar, combined with the present shortage of supplies, it should be possible to re-establish the sugar industry in this country on a permanent basis.

B. B.

THE OIL PALM.

REPORT OF THE MISSION TO WEST AFRICA—(*concluded*).

IT is perhaps natural to suppose that, when attempting to exploit further any indigenous African plant, efforts would be directed, in spite of the difficulty of inducing the native to abandon his methods for others perhaps more strenuous and continuous, to those already existing.

In this case, however, in the author's opinion any attempt to improve existing *palmeries* would be a great mistake, and an entirely fresh start should be made with plantations. There are many arguments in favour of this, of which the following are perhaps the most important:

(1) Difficulties in the way of obtaining concessions would disappear if areas free from palms were chosen. Such areas exist on the Ivory Coast in dense jungle, and rarety or absence of *Elaeis* is not necessarily proof of unsuitability of soil, since it cannot exist in dense undergrowth.

(2) The labour required will be less than that necessary to improve wild *palmeries*. In the case of the latter, it will be impossible to employ modern methods of clearing. Felling of useless trees must be done with great care in order to avoid injury or destruction of the remaining palms. Burning of wood will be difficult or impossible. Evidently more labour would be required than if the whole of the area could be felled and burnt or explosives used in stumping. Clean clearing has been found to be the most certain guarantee of success in the East (Malaya and Netherlands Indies); and in effecting this in West Africa where labour is scarce mechanical aids will be of the greatest assistance.

(3) The labour required for weeding will be less on a plantation as, owing to the regular arrangement of the trees, tractors can be used.

(4) Collection is simplified as the employment of labourers to climb the palms will no longer be necessary. It is stated that palms planted (8 × 8 m) in the East produce fruit in their third year, within a few feet of the soil; and that ladders or climbers are not required till the 10th or 12th year. On the natural *palmeries* of Africa, owing to neglect, palms produce fruit only when tall, thus necessitating much labour in collecting. If this labour could be applied to the cultivation of the palms when young it would be more economical in the long run, particularly if machinery could be employed.

Although the cost of establishing a plantation will be higher than that of improving a *palmerie* the higher yield from the former should amply justify the expenditure, even leaving out of consideration the difficulties likely to be met with in carrying out the latter.

The following figures of yields are taken from Eastern plantations and show that the most sanguine estimates have been exceeded. It has been found that, owing to continuity of rains, fruiting of the oil palm is continuous in Sumatra, and not limited to two seasons per year as on the Ivory Coast, therefore estimates for Africa should be somewhat reduced. In Sumatra, palms of 5-7 years have been observed to produce 12 inflorescences, each giving

10 kilos of fruit. This with a stand of 150 palms to the hectare (8 × 8 m) gives 18,000 kilos of fruit, which, at 20 per cent. of oil, should give 3,600 kilos of oil per hectare per year. A yield of 12 bunches per year may be considered as a minimum as palms giving 2-3 bunches per month have been observed on the same plantation—a total of 24-36 per year. Such palms are not exceptional and the yields are not the result of special care. The yield of fruit from each inflorescence is due to the removal of the supporting leaf at a given stage of maturity of the inflorescence. This practice has led to an increase of 50 per cent. in weight of fruits carried by each bunch. Bunches of 24-26 kilos (14-15 kilos fruit) are not exceptional.

The yields are not surprising when the differences of conditions of plantation and *palmerie* are taken into account. On the plantation, the palms in completely cleared areas can develop freely without competition, and the trunk increases in thickness instead of growing in height. A plantation palm five years old may have a trunk twice the size of a wild one of 15-20 years. As inflorescences are formed on the entire circumference of the plant higher yields are to be expected.

Although it may be possible to obtain fruits during the third year, let us assume that collection starts in the fifth year, and that a plantation of *Elaeis* will yield two tons (Metric) of oil per hectare per year (an underestimate in view of the figures given above). Then knowing the exports of palm oil to be

Guinea	350	tons (Metric)
Ivory Coast	6,000	„
Dahomey	15,000	„
Total ...	21,350	„

it follows that the present output would be produced by a total of 10,670 hectares; and an area approaching this is already contemplated in the East. This fact indicates the urgent character of the African problem; to avoid disaster, application of the means employed by the new competitors must be made. The general argument against plantations—loss of time—has been shown to lose much of its force owing to the obstacles in the way of improved *palmeries*—the difference can only be, at greatest, two years, and this loss of time will be more than compensated for by higher returns on invested capital.

If competition from the East were only quantitative, the danger to Africa would not be so serious, but reasons will be given below that show the possibility of the Eastern plantation oil being of a superior quality. The appearance of such oil on the market would result in a drop in price of the inferior product, comparable to that shown by wild African rubber in competition with the plantation product.

One of the greatest advantages of plantations lies in the possibility of planting improved strains. In *palmeries* mixtures of varieties are met with, characterized by varying proportions of pulp, shell and kernel. The yield of palm oil is dependent on the thickness of the pericarp and varies from 12-45 per cent. of the total weight in different strains.

Selection of Oil Palms.

Past errors of planters in the East will contribute to the success of *Elaeis* there. Taking *Hevea* as an example—it is well known that in any plantation there are large variations of yield which, after allowing for influences of climate or soil, must be attributed to differences in the seed.

At the outset the proportion of viable seeds was too small to permit of selection by the planters, and the absence of any scientific selection when the first trees started to fruit was a serious error. The benefits to be derived appeared to be too remote. The majority of the present plantations obtained their seed from the first planted trees, selection being based only on weight and size. The absence of records from the inception of plantations prevents proper selection based on individual performance.

Planters are unlikely to repeat this fundamental error when establishing oil palm on a large scale.

It is proposed by the author, with the help of Messrs. Teissonier and M. Ariati, to lay the foundations of a system of botanical selection in Africa.

Obviously the planters will be concerned chiefly with the establishment of nurseries destined to furnish palms with the least possible delay, but it is essential that they should at the same time establish selection grounds. It is not possible definitely to predict the isolation and fixation of any given variety of *Elaeis* as a result of selection, since it is not known what characters are permanent, i.e., are transmitted by heredity. The importance of this aspect of the problem has long attracted the attention of botanists, and it is a regrettable fact that after 15 years there is not an extensive ground-work of observation to serve as a basis for future work.

The work will be lengthy, but taking even the fifth year as the first of production, 15 years is sufficient to give observations on three generations and no doubt permit the drawing of valuable conclusions. Permanence of characters has been already partially verified. Profiting by rubber experience, planters in the East will almost certainly arrange their nurseries with a view to selection.

It is impossible to draw conclusions of industrial value from simple examination of relative weights of pericarp, shell, kernel and yield of oil from a given palm. Many other factors exist which complicate the problem. Determinations of yields of fruit, giving the limits of variations of several strains have already been made, and comparisons of proportion of oil to weight of fruit are interesting, but *the best strain is that which gives on a given area the maximum of oil of best quality at a minimum price of collection.* Take, for example, two strains, one with thick pericarp rich in oil giving 10 bunches per year, the other thin and poor in oil giving 15 bunches of a total weight equal to the former. Then if the total weight of oil were equal for the two, the former would be better, as the cost of working would be smaller.

Our proposed scheme of work is as follows. In the "improved *palmerie*" at the Agricultural Station of Bingenville, palms have been selected having the following fruit characters:

1. Thick pericarp.
2. Thin or moderately thin shell.
3. Normal kernel.

It has been difficult, if not impossible, to place the fruit examined in one or other of the divisions proposed by various authors owing to the existence of many intermediate types. So continuous are the series that some authors have not considered form and composition to be indices of varietal differences. The characters chosen above are those which enable predictions of high yield relative to varieties with thin pericarp thick shell and small kernel to be made. A more logical course would have been to take the yield of palms as a criterion, and to collect seed from the highest yielders without reference to composition. This would have necessitated individual tree yields, statistics of which were not available—further if fruit characters are really indices of varieties, even if a variety with thick pericarp and thin shell yields less (in fruits) than one with thin pericarp and thick shell, unless the possibility of external influences on hereditary characters be denied it is permissible to hope for improvement on cultivation*. The form of fruits varies considerably with the place occupied on the bunch; only those at the outside of the bunch having room for normal development. These alone are chosen.

Part of the selected fruit is sown at Bingenville, the remainder packed in powdered wood charcoal is sent to Sumatra. Both fruit and tree are numbered identically thus facilitating future comparison.

Since many different varieties exist side by side at Bingenville it will be impossible to prevent hybridization, with resultant variation of offspring. To ensure successful elimination of undesirable individuals and restriction of pollination to the offspring of selected individuals, small isolated areas of about one hectare each will be cleared in the jungle, and planted up. Since pollination is almost entirely by insects these precautions should exclude outside fertilization. Climatic and soil conditions will be indentical on all the chosen areas, and results should be strictly comparable. At the first time of fruiting, each palm will be examined and those which have "bred true" will be marked. The following observations will then be made:

A.—1. Individual examination from some of the palms in each area of proportions of pericarp, shell, kernel and oil, taking care to include palms which have and have not "bred true."

2. Recording of the number of fruit *bunches* and weight of fruit from each palm.

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* This passage is somewhat obscure, and may have been misunderstood.

B.—The produce from each area will be treated industrially and the following will be noted :

1. Number and total weight of fruit bunches treated.
2. Total weight of fruit.
3. Weight of pericarp obtained.
4. Weight of seed (stone).
5. Weight of kernels and shells.
6. Quantity of palm oil.

These observations should tell us at the end of the fifth year (when the true selection will start) if individuals giving fruit varying from those of the mother plant are always the same and if their yield is inferior. Should this be so, the less valuable palms will be removed from the chosen areas, and seed collected from the fructifications following the elimination will be sown in similar isolated areas.

One probable objection to the above procedure is the collection of seeds from immature plants. No records of the performance of seeds from five-year old *Elaeis* exist, but the author does not hesitate to predict that, with the care which will be expended on the chosen areas, robust specimens of oil palm will result.

The first five years' work will not suffice for real fixation or improvement, but, owing to the small size of the areas, exact information of the chosen individuals will have been made available.

Selected seeds will be sown at each succeeding period of fructification thus enabling a comparison to be made later between individuals from seed of the same trees at different ages.

Taking the fifth year as that of first collection of seeds we have :

5th—a	sowing	giving	seed	in the	10th year
6th	„	„	„	11th	„
7th	„	„	„	12th	„

In the fifteenth year, it should be possible to compare observations on three generations of offspring of the same palm.

It is not proposed to give a detailed account of the laboratory experiments which will be carried out on variations in quality of oil, although this is a point of great importance. When making oil for culinary purposes the natives employ fruit from certain varieties only, and this point should be further investigated.

All these researches should show the existence of desirable characters most highly developed in certain varieties or types.

It may even be possible by artificial pollination to combine these in one individual.

It may seem probable that this work, long and costly as it is, will not to any great extent benefit plantations undertaking it; but it must be remembered that the palms in the selected areas will be exploited. Again, if the companies are on the scale of those interested in rubber, concessions of 5,000, 10,000 or 25,000 hectares may be expected and if planting is done gradually, selection areas should amply justify their existence.

There are two more factors to be considered:

1. Loss of trees by pests, disease and accident.

2. No information is available as to the effect of age on the yield of *Elaeis*. It is possible that deterioration occurs and that continuous replacement will be necessary. A reserve of selected trees should be of great importance. The question of selection has been here treated theoretically but it is hoped soon to communicate a complete plan of work undertaken in the East. Parallel observations in Africa and Asia should be most interesting.

Factory Machinery and the Preparation of Palm Oil.

The following principles govern the choice of machinery if the best results are to be obtained:

A.—Content of free fatty acids being one cause of depreciation in value, and water having been shown to favour the appearance of free fatty acids, the first condition is that all operations should be carried through without water.

B.—The liberation of free acids being due to action of enzymes in fruit separated from the bunch, complete sterilization of fruit and pericarp at all stages should be the rule.*

Trevor's system appears to fulfil the required conditions better than any other of those examined, but it is necessary to emphasize that the most perfect machinery cannot remove acid formed before the fruit reaches the factory. This makes the preparation of neutral oil from fruit bought from natives an impossibility, since the maximum time elapses between collection and treatment. Further, the fruits are unavoidably (for ease of transport) removed from the inflorescence at the time of collection, giving the enzymes every chance of acting.

These inconveniences will disappear on plantations for

1. The area necessary to produce a given yield will be smaller than on *palmeries*.

2. Supervision will be better.

3. The great producing power of the palms will justify the installation of extensive machanical transport.

4. Rapid transport of complete *bunches* will be possible, and the fruits can be sterilized bofore fatty acids have been liberated.

(Dr. Pelt here explains that Mr. Trevor has new plans for an improved factory—doubtless details will be published later.

For a discussion of apparatus, *see Agricultural Bulletin*, Vol. VI, No. 11.)

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* Enzymes from invading fungi are possibily included by Dr. Pelt hence the use of the word "sterilization" instead of "heating" (Tr.)

A last factor of importance is the necessity of turning out oil in such a state that alteration will not occur on the voyage to Europe. Purification by heating and decantation does not remove minute mucilaginous particles which will later decompose. They necessitate the use of a filter press.

The present method of packing in barrels is unsatisfactory. In addition to high price and difficulty of handling, they are prone to leakage. While it would be premature to predict hydrogenation plants for Africa, this operation giving as it does a solid product, solves the problem. The study of hydrogenation has been put on the programme of the Eastern industry.

Already factories for the manufacture of rubber articles exist in rubber-producing countries, and it is certain that soap and margarine factories will in the future be placed near oil palm plantations.

Such ideas may appear utopian for Africa, where plantations are not yet in existence, but hasty conclusions should not be drawn, especially where these are based on previous failures of attempts made with insufficient resources.

(Dr. Pelt ends by drawing attention to the assistance given by science to the industries of the East and emphasizing the need of similar developments in Africa, and the establishment of a liaison with workers in the East.)

Conclusions.

1. The journey undertaken in Africa has convinced the author that if prompt action is not taken the principal export of the African Colonies will dwindle and disappear.

The danger will be appreciated when it is stated that the production of a single plantation in the East of 10,000 hectares will equal the entire production of the French Colonies.

2. The enterprises, already existing, are designed to meet this menace, and their difficulties are largely due to lack of co-operation with commercial houses.

3. The author unhesitatingly recommends the introduction of plantation culture, as the working of improved *palmeries* will only be practicable in special cases.

4. Employment of scientific methods and co-operation with Eastern enterprises are essential.

NEGATIVE RESULTS OF EXPERIMENTS IN THE CONTROL OF THE MOTH OF BRACHARTONA CATOXANTHA, HAMPS.

By G. H. Corbett and F. W. South.

AN outbreak of this pest was known to be in progress in small holdings of coconuts of various ages at the sixth and a half mile on the Kuala Selangor-Sabak Bernam Road.

The appearance of this insect was first reported at the end of April, 1920, and a preliminary visit to the neighbourhood was paid by the Chief Agricultural Inspector and the Assistant Agricultural Inspector—Mr. F. Birkinshaw—on the last day of the month.

On this occasion, a few adults were seen but the majority of the insects were in the pupal stage, of the remaining caterpillars the larger proportion was parasitised.

On some of the holdings the trees had been considerably damaged, the lower leaves, in particular, possessed a brownish appearance and had been much eaten. Owing to the drooping of these lower leaves, the support to the bunches of nuts had been removed, and, in consequence, the stems, carrying the bunches of nuts, had broken so that the bunches had either fallen from the trees or were in danger of falling before ripening. Where the intermediate leaves had been attacked, the small developing bunches showed a tendency to drop their nuts owing to insufficient nutriment.

The condition of the more severely damaged holdings suggested that there had been previous generations of caterpillars preceding that which had recently pupated, and that the injury caused by the earlier generations of caterpillars had not been noticed by the owners of the holdings.

Observations were made on the parasitisation of the pupæ, and, by counts, on a badly attacked holding, 50 per cent. of the pupæ were found to be infected. One or more species of fungi were very prominent whilst a Tachinid fly was also useful. Occasional caterpillars were found with pupæ of a hymenopterous insect beneath them. It should be noted that the degree of parasitisation varied not only from one holding to another but from tree to tree: generally speaking, it was less severe where the resulting damage indicated a more recent attack.

Following the above visit the writers returned to the same locality on the 25th and 26th of May, 1920. On this occasion, there were numerous caterpillars of the more advanced stages, and in certain places, recently formed chrysalids were observed.

These observations suggested a visit should be arranged about the beginning of June for the purpose of trying control measures against the moth itself, and accordingly arrangements were made to carry out experiments with light traps and poison baits from 4th June to the 8th June.

(1).—Light Traps.

Two petrol lamps of 250 candle-power were used. Each was placed in a circular tin tray about two feet in diameter and four inches deep, and supported on a tripod, about five feet from the ground, carrying a light circular wooden platform about the same diameter as the tray.

On the evening of the 4th, the trays were filled with water overlaid by a thin film of kerosene oil.

During the afternoon moths were not seen in large numbers. Light Trap No. 1 was placed near the centre of a field of young coconuts of about two years old, and Trap No. 2 under trees in bearing having about 12 feet of trunk below the leaves, probably about 10 years of age.

On the afternoon of the 5th, the traps were examined, and only one female in Trap No. 1 could be definitely identified. The effect of the oil rendered it difficult to distinguish the different species of small moths caught. It might be mentioned that the lamp of Trap No. 1 was still burning and the lamp of No. 2 was reported to have gone out about 9 p.m. on the 4th.

On the afternoon of the 5th the traps were again set, but with water only in the tins. No. 1 was left in the same position, but No. 2 was removed to an adjoining holding in which the trees were about seven years old and placed beneath a tree around which the moths were numerous and active.

During the afternoon it was noticed that the number of moths had considerably increased, and five pairs in copulation were caught.

The traps were visited on the afternoon of the 6th and only one male moth in Trap No. 2 was taken.

No. 1, Light Trap burnt all night and No. 2 till 11 p.m. on the 5th.

The traps were set in the same positions on the afternoon of the 6th. On this occasion, it was decided to augment the possible attraction of the light by the addition of attractive substances to the water in the tins. Consequently, a thick sugar solution was added to the water in Trap No. 1, until there was a distinct smell of sugar and about the same quantity of sugar and a half bottle of stout was poured into the water in Trap No. 2.

During this afternoon, numerous moths were found throughout the holdings and were exceedingly active in the vicinity of the traps, especially in the tree above Trap No. 2.

The traps were examined on the morning of the 7th. In Trap No. 1, there was one female moth, and in No. 2 two males.

The traps were lighted about 6.30 p.m. on the 8th and were under observation from that time until about 8.45 p.m. No moth was noticed to come near the traps. They seemed quite contented to remain at the tips of dried leaflets or on the trunk, generally in copulation. If the moths were disturbed on the trees, some flew to

the light, and the presence of the few moths caught in the traps was probably due to a beetle or other insect striking the leaf on which the moths were resting.

Observations with regard to the time of day the moths were active were made on the 10th, 11th, 12th and 13th June and the conclusions drawn are—from about 2 p.m. till 6.30 p.m. the moths are active, from 6.30 p.m. till 6.30 a.m. resting on various parts of the plant chiefly at the tips of the leaflets, from 6.30 a.m. till 9 a.m. active, and from 9 a.m. till 2 p.m. inactive on the plant.

Conclusions.—Whilst the preliminary results of investigations regarding the attraction of light on the moths of *Brachartona catoxantha, Hamps.*, do not extend over the whole period of their life, they would appear to indicate strongly that such attraction is very limited and cannot be expected to form a satisfactory control. This method is without effect unless the females are attracted in large numbers before egg-laying commences. When the trees are shaken moths do not come to the light in sufficiently large numbers to recommend the practice of shaking the trees in the hope that the moths will fly to the light.

(2).—Poison Baits.

Poison baits were tried with a view to attracting the moths in the hope that before egg-laying commenced the females would be poisoned in large numbers.

On 4th June the following bait was tried :

10 lbs. bran,
12 ozs. sugar, and
$\frac{1}{4}$ lbs. paris green.

The sugar was dissolved in water and mixed with the bran and paris green. The condition of the mixture was such that it would stick together. The bait was divided into about 19 parts and placed in half coconuts shells. These were floated on the blind drains running between the rows of trees. The idea of floating the baits was to prevent poultry and ants from eating the mixture.

These baits on examination on the afternoon of the 5th were found to contain no insects and there were no dead insects in the vicinity on the water.

On the afternoon of the 5th the following baits were experimented with :

(1) The bran, sugar, and paris green bait with the addition of more sugar,
(2) The same as No. (1) with lime juice,
(3) Grated coconut, sugar, and paris green,
(4) Thick sugar solution and paris green,
(5) No. 4 with the addition of stout.

The sugar used in the above baits was boiled until the liquid was practically a supersaturated solution.

Baits Nos. (1), (2) and (3) were placed in half coconut husks supported on spiked sticks about four feet in height.

Baits (4) and (5) were painted on the trees.

All these baits were examined on the afternoon of the 6th and there was no indication of any moths having been near the baits. Nos. (4) and (5) had dried on all trees and disappeared except for the colouration of the green poison.

On the afternoon of the 6th the following were tried:

(i) Sugar was added to Nos. (1), (2) and (3) till they became liquid,

(ii) Sugar and paris green were placed in a cigarette tin, and

(iii) Sugar, paris green, and stout were placed in another tin.

All the baits were put out on sticks, and baits (ii) and (iii) were in close proximity to two young trees on which moths were numerous.

On examination in the morning of the 7th, the only insects present were a few small beetles, and moths, not *Brachartona*.

Conclusions.—The writers are satisfied that sugar possesses no attraction for *Brachartona catoxantha* at a stage when the moths would be usefully poisoned. There is a strong indication that the moths do not feed. They occur most frequently on the brown tips of the leaflets on the horizontal leaves of the coconuts, and do not appear to frequent the young inflorescence where they would obtain nectar: furthermore, they were as numerous on trees too young to flower as they were on older trees already in bearing.

General Consideration.

Whilst the initial trials to catch the moth have so far failed, a considerable amount of useful control work undoubtedly can be done against this moth where the leaves of the coconut trees permit.

The moths are inactive at night, and during the day from 9 a.m. till two in the afternoon. During these times they can be quite readily caught on the trees either by using hand nets, and afterwards killing them, or by pressing the moths between two pieces of flat wood or stone whilst the moths are still on the palms.

It is important to commence catching the moths on their first appearance, for eggs are laid about two days after their emergence.

SHORT REPORT ON THE WORK OF THE INSPECTION STAFF, FIRST HALF YEAR, 1920.

THE European staff has been very much reduced throughout the half year as out of 10 appointments only the Chief Agricultural Inspector remained at the beginning of the year. One Officer, Mr. F. Birkinshaw, from Mauritius, was appointed an Assistant Agricultural Inspector and arrived here in March; he was subsequently stationed in Taiping in June. The Chief Agricultural Inspector had the assistance of the Agricultural Instructor, Negri Sembilan, until June 10th when this officer went on leave, but apart from this he has had to rely mainly on the Malay officers of the staff who have for the most part done well.

Visits have been paid by different officers to 8 estates in Perak, 6 in Selangor, 17 in Negri Sembilan, 6 in Pahang, 5 in Malacca, and 4 in Johore making a total of 46 visits. The shortage of European officers has entailed a considerable amount of travelling on the part of those left to carry on the work.

At the request of the Government of Kedah a special visit to Kedah to report on root diseases was made by the Junior Agricultural Assistant, Taiping, in February and a report was submitted by him.

A course of lectures for training Malay officers was completed in January and concluded with the usual examination. Another course commenced in May and is in progress.

Routine work of inspecting small holdings has proceeded as usual and this work has now been thoroughly organized in Malacca and has progressed well during the last few months.

Among rubber diseases, the most important occurrence has been the outbreak of "Mouldy Rot," *Sphaeronema* sp., in Northern Johore. This was first reported in February and since then arrangements have been completed to enforce its proper treatment and a considerable amount of work has been done. Dry weather in March and April somewhat checked the disease, but rain in May encouraged its spread. This same disease is spreading to new localities in Negri Sembilan in spite of all efforts to check it, though it has not been so prevalent during the last two drier months of the half year, as it was earlier.

On coconuts there was an outbreak of *Brachartona catoxantha*, a caterpillar pest, at one locality in Kuala Selangor district. This is a difficult pest to control by artificial means though its natural enemies are numerous and usually effective after some generations of the caterpillars have done damage. Its control is under investigation by the Entomologist.

Early in the year there were local outbreaks of different pests on padi. None of them assumed very serious proportions. These pests and their control are under investigation. In most cases no standard methods of treatment have yet been established.

Attempts have been made in various parts of the country to induce Asiatic owners of small holdings to keep their rubber or coconut land free from lalang grass and blukar while the trees are young. This is often a difficult matter, especially if the owners are Malays, as not only are they usually too lazy to do the work themselves and often too poor to employ coolies, but such work is much interfered with by the necessity of attending to padi cultivation.

Bad methods of tapping on small holdings in the past have rendered the trees on many of the older holdings almost unfit for tapping and it appears as if many of such holdings would soon cease to yield rubber in paying quantities. The course to be adopted by owners of such holdings is receiving consideration.

It has been found in practice that it is very difficult for inspecting officers to take measures to prevent the use of alum as coagulant for latex on small holdings, owing to the difficulty of proving satisfactorily that it has been employed. Other methods for stopping its use are under consideration.

The destruction of water hyacinth in rivers and on State land has been continued steadily, especially in Perak North, and owners have been compelled to remove it from their land. The plant is difficult to eradicate entirely, so two gangs of coolies are being established in Perak North to clean the rivers and other localities periodically and thus prevent this pest from ever spreading to any large extent. Small patches in other parts of the Peninsula can be dealt with by employing casual labour.

F.W.S.

NOTES ON THE FIELD TREATMENT OF MOULDY ROT.

WE publish below for the information of our readers extracts from notes on the field control of Mouldy Rot supplied by managers of various estates in the infected regions.

These notes are distinctly encouraging, and clearly indicate that given suitable treatment this disease can be controlled.

The chief mistake evident is confusion of treatment and prevention, and possibly, insufficient vigilance in preventing incoming coolies using infected knives.

It is doubtful whether managers realize that *eradication* of the disease in unlikely to be effected by any system of painting—unless the vigour of the trees can very materially be improved, Mouldy Rot is liable to reappear whenever weather conditions are suitable, unless preventive painting is resorted to.

All recommendations issued by this Department are based on the assumption that they are carried out throughout the affected area and this in the past has seldom been done.

F. de la M. N.

Estate A.—"The slight attack noticed in September was confined to one task and the resultant damage very slight. On the first signs appearing the task was immediately thrown out of tapping and the tapper's knife confiscated, all other knives on the estate being thoroughly cleaned in a strong solution of formalin.

"During the last week the disease has spread in from an adjoining Malay kampong and six tasks almost immediately adjacent have become infected. Only a small percentage of trees is attacked so far. I may say that two of these tasks had new tappers in with their own knives and they said they were last employed at ..... As a precautionary measure all knives are cleaned here once a week in a solution of formalin and these two tappers had arrived in the interim. These six tasks will be rested for at least one month or until such time as the weather becomes drier. They will then again be brought into the tapping round leaving a strip of bark of at least two inches below the infected portion."

Estate B.—"I have the honour to inform you that 'Mouldy Rot' has given no trouble on.....

"2. The cases reported on 18th January, 1917, were treated with a light jodelite mixture, and, to the best of my knowledge, there has been no recurrence of the disease since then.

"A few suspected cases have occurred which responded readily to cessation of tapping for a period of a month or six weeks and the application of a 5 per cent. mixture of jodelite."

Estate C.—"From July, 1917, to April, 1918, all the trees on the estate were painted from time to time, say once a month, with a 10 per cent. solution of brunolinum which apparently eradicated the disease.

"However, early in December of last year, some six trees were found to be suffering from the disease, these were immediately taken out of the tapping round and all the trees on the estate were painted three times at short intervals with a 20 per cent. solution of brunolinum plantarium. This seems to have prevented the disease from spreading as up to the present I have not found any further trees affected.

"I might say that at no time has the disease been very bad on this estate."

Estate D.—"With reference to your letter of 8th January there is no Mouldy Rot on this estate at present, and has not been since 23rd March, 1918.

"The reason is, I think, that it has been heavily thinned out and the stand of trees per acre all over is now 80 to 90 whereas in 1918 it was 120 to 160."

Estate E.—"Since October, 1917, there have been less than 50 cases of Mouldy Rot on this estate, 30 of which have occurred within the last month. The *curative treatment* adopted was fortnightly painting with a mixture of tar, jodelite and crude oil.

"*Preventive measures* have consisted only in the immediate notification by tappers and Kapalas of trees showing suspicious symptoms; these were then taken out of the tapping round for two months after having been once painted with the above mixture.

"I consider that the system of alternate day tapping which is carried on on this estate has been the chief defence against the disease and also the fact of there being a fairly settled force of Chinese tappers who have somewhat realized the ill effects the further spread of the disease might have on their earnings."

Estate F.—"The method of treatment of Mouldy Rot on this estate is cessation of tapping on the whole of the task in which it appeared for three weeks or one month, and painting with a mixture of linseed oil and tar on the diseased portion. The disease at present has been completely stopped, and tapping has been resumed in three tasks previously affected."

Estate G.—"At present no Mouldy Rot is to be seen on this estate.

"During the last six months about 100 trees have been infected at different times on our.....Division.

"Brunolinum solution 20 per cent. mixed with hot soapy water was used. During wet weather, i.e., November and December daily painting was done on all the trees in the division. Infected trees were scraped where diseased and 20 per cent. brunolinum applied daily for about a fortnight during which time the trees were not tapped; when all trace of the disease disappears the trees are

brought into the tapping round again. The tappers have been trained to report the disease in its early stages and also to cease tapping infected trees."

Estate H.—"This disease appears regularly on the estate every year about the same time. Generally when the rains are heaviest i.e., from August to January. It then disappears. In 1918 about 10 per cent. of the trees were attacked and these tasks in which the disease appeared were put out of the tapping round and disinfected every alternate day with brunolinum, soft soap and hot water, after a month of this treatment the trees were again tapped and on only about half of the infected trees did the mould reappear, the treatment was continued until the disease had disappeared.

"This year only three tasks in one corner of the estate have shown any signs of the disease and as this particular place adjoins a native holding on which the Mouldy Rot was very bad, I blame this for its reappearance this year. The same treatment was carried on with the exception that brunolinum 20 per cent. mixed in crude oil 80 per cent. was used for disinfecting and the trees put out of the tapping round. This has been found quite effective until the dry weather reappears when the disease goes off altogether."

Estate I.—"Mouldy Rot is at present rather bad on this estate. I have some 45 numbers affected—a few trees in each number. As soon as the disease is found on any tree in a task the whole task is shut down and all trees treated with a 20 per cent. solution of brunolinum.

"I tried 25 per cent. but this injured the cortex. The whole task is kept out of tapping for two to three weeks and then reopened. As the disease was spreading so quickly I now paint my trees with a solution of crude oil and tar—85 per cent. of crude oil and 15 per cent. tar to try and prevent the spread. The spouts and cups of every task where there is disease are collected and thoroughly cleaned and sterilized."

Estate J.—"The present position regarding Mouldy Rot is that it is well in hand and that it is chiefly confined to where Chinese tapping takes place and not more than 5,000 trees affected.

"The recent wet weather has caused several outbreaks of this disease and as usual resting of the tasks where Chinese are concerned takes place and a mixture of one of jodelite, two of tar and three of crude oil is applied to all trees in the affected task."

Estate K.—"This disease is well in hand, and only a few cases are to be seen. My worst field after being thinned out to 73 trees an acre, is totally free, and arrangements are being made to thin-out the whole estate to a stand of 70 to 80 trees an acre.

"Some of the worst rubber has now been thinned out, and although occasional cases crop up, I am convinced that after thinning-out, say in three months' time, there will be no recurrence, unless cases are introduced by new tappers using a knife infected from another estate."

Estate L.—"Division.....has had a great deal of trouble with Mouldy Rot and at times we have had as many as 16 tasks shut down out of a total of 69. We have, however, succeeded in checking the disease and at present only one task is affected. Division.....has never suffered badly through Mouldy Rot. There have been a few isolated infections which have been immediately stopped by treatment.

"Division.....has a fair amount of trouble. There was a nasty outbreak in December and 10 tasks had to be closed down for treatment.

"There are still seven tasks closed in this Division, but the disease is disappearing and we hope to be able to open them up again soon.

"Our methods of treatment is as follows:

"As soon as Mouldy Rot appears, the task affected is immediately closed down and the same day all the trees in that task are painted with a 10 per cent. solution of brunolinum plantarium. Thereafter the task is painted every four days with 10 per cent. solution until the disease disappears.

"Our experience shows that it takes from ten days to two weeks to stop the disease.

"After the disease has disappeared we open a new cut two inches below the one that was affected.

"Every tree on Division.....and Division.....is painted with a 10 per cent. solution of brunolinum plantarium once every ten days.

"We are using a little coal tar mixed with the brunolinum as we find it gives better results than brunolinum alone."

INTERNATIONAL TEA CONGRESS.

WE are informed that an International Tea Congress and Exhibition will be held at Bandoeng (Java) from May 6th to 21st, 1922.

The congress and exhibition will be held under the auspices of the Netherlands East Indies Government. It will be of great importance to all concerned with tea-growing in the East, as the views of well-known authorities on vital questions will most certainly throw light on many matters of consequence.

The object of the congress is the study of the scientific, economical and technical questions which concern tea culture and the industry. Well-known authorities will be invited to contribute dissertations and the subjects which are best suited for the purpose will be discussed. At the conclusion of the congress the collected material with reports of the debates, etc., will be published as a Receuil.

The congress will be divided into 10 sections, viz.: (1) Botany, zoology and chemistry; (2) Climate and soil; (3) Culture and crop; (4) Preparation, etc., (5) Native tea culture; (6) Working policy; (7) Substitutes and adulterations; (8) Commerce; (9) Tea in Sumatra; (10) Publications.

The exhibition will show how the culture and preparation of tea is conducted in the principal producing countries, thus giving an idea how this is done in various parts of the globe.

Attention will also be devoted to the sale of teas, the means to propagate same, substitutes, etc.

F. de la M. N.

PRÉCIS MINUTES OF A MEETING OF THE ADVISORY COMMITTEE, DEPARTMENT OF AGRICULTURE.

HELD AT THE OFFICE OF THE DIRECTOR OF AGRICULTURE AT 10.30 A.M. ON TUESDAY, JUNE 1ST.

PRESENT: Director of Agriculture (Mr. L. Lewton-Brain), Chairman, Messrs. J. Bruce, Shelton-Agar, H. J. Gillespie and C. Burn Murdoch. Assistant to Director (Mr. F de la Mare Norris), Secretary.

ABSENT: Messrs. J. S. Ferguson, G. W. B. Gray, J. French, C. Ritchie, G. Bailey, R. M. Richards, Towkay Chew Kam Chuan and Towkay Lee Kong Lam.

Messrs. H. W. Jack (Economic Botanist) B. Bunting (Agriculturist) F. W. South (Chief Agricultural Inspector) and G. H. Corbett (Government Entomologist) attend the meeting.

1. Minutes of the previous meeting, having been circulated, are taken as read and confirmed.

2.—DISCUSSION OF QUARTERLY PROGRESS REPORTS.

(*a*) *Sapintas Estate.*—The Committe agree to do away with the cultivation of food-stuffs and to confine attention to experimental work.

(*b*) *Mycologist's Report.*—Mr. Shelton-Agar draws attention to the statement made by the Mycologist that he had been able to devote little time to the study of Brown Bast. He considers that this is a very serious state of affairs. A discussion of the acute shortage of staff follows, and the Committee agree to the advisability of approaching the Government, with a view to putting the Department of Agriculture on a sounder footing.

With reference to a question raised by Mr. Shelton-Agar concerning treatment of Mouldy Rot, the meeting is informed that facilities are provided by the Department to enable owners of small holdings to procure small quantities of the disinfectants recommended for treatment or for prevention of this disease.

(*c*) *Botanical.*—The meeting is informed that grafting experiments are being carried out in connection with rubber selection. So far results have not been very successful. It is recommended that attention be drawn to the value of alternate day tapping, and that if possible figures and information should be published, a discussion of this system in relation to the incidence of rubber disease follows.

3.—SELANGOR LARGE SCALE FARM.

The meeting is informed that proposals have been approved and that it is hoped a start will be made in June.

4.—SPECIAL DIVISION OF THE DEPARTMENT TO DEAL WITH FOOD PRODUCTION.

The Chairman gives the meeting details of a joint scheme for the Federated Malay States and Straits Settlements which he proposes, with their approval, to submit to Government.

5.—Sapintas Estate.

Certain matters relating to the agreement of Mr. Parkin, the Manager, are discussed.

6.—African Oil Palm.

The Chairman informs the meeting that he considers that they will be able to obtain all the seed required from Nigeria and from Sumatra. He also proposes that Government be asked to depute Mr. Jack, Economic Botanist, to visit West Africa and report on cultivation, varieties, etc., of this palm. The Committee supports the suggestion.

7.—Mouldy Rot.

The Committee strongly supports the Director's action in forbidding the removal of thinned out rubber trees from areas where there have been serious outbreaks of this disease. It is imperative that such timber be destroyed on the spot.

8.—General.

With reference to wages of plantation coolies the Committee agree to be guided by recommendations made by the General Labour Committee.

The meeting terminates at 12.15 p.m.

MINUTES OF A SPECIAL MEETING OF THE PLANTERS' ASSOCIATION OF MALAYA,

held at the Chamber of Commerce, Penang, on 30th June, 1920, at 11 a.m.

PRESENT:

Mr. J. Bruce (*Vice-Chairman*) in the Chair
„ C. Ward-Jackson (*Secretary*)

and the following members:

From the Bahau-Kuala Pilah D.P.A.	Messrs. Fred Knocker and C. W. Keppel-Powis
„ Batang Padang D.P.A. ...	„ C. B. Graburn, C. Darby and R. Davison
„ Batu Tiga D.P.A.	Mr. T. J. Cumming
„ Central Pahang P.A.... ...	Victome R. de Bondy
„ Central Perak P.A.	Messrs. J. S. Ferguson and A. Harman Orr
„ Kajang P.A.	Capt. K. G. Furley and Major C. Burn-Murdoch
„ Kapar D.P.A.	Mr. H. R. Jones
„ Kedah P.A.	Messrs. D. R. C. Lawford, G. D. F. Sinclair, F. R. Long and J. Wilson
„ Klang D.P.A.	„ R. Napier Henrie, Wm. R. S. McMillan and V. J. Davidson
„ Kuala Langat D.P.A. ...	Mr. Thos. H. Menzies and Capt. H. L. Carter
„ Lower Perak D.P.A.	Messrs. W. R. C. Gray, R. M. Latham, A. Pritchard and F. Adelborg
„ Malay Peninsula Agricultural Association	Major H. Gough, Messrs. F. Duncan Hindley, A. Hastie, N. D. Macdonald, Major H. D. Jensen, Messrs. T. A. Kennard and R. Gooch
„ Taiping P.A.	Messrs. W. H. Tate and H. de Z. Lancaster
„ Ulu Selangor D.P.A.... ...	Mr. M. J. Keunaway

HONORARY MEMBERS.—Messrs. W. Duncan and L. Lewton-Brain

VISITORS.—Messrs. H. R. L. Edwards, E. H. Offenberg, Douglas Mascott, A. D. Duncan, W. Price, J. D. Smith and F. W. South

1.—PRELIMINARY.

Mr. BRUCE informs the meeting that he occupies the chair owing to the absence of Mr. J. W. Kennedy who has had somewhat suddenly to leave for home.

He says Mr. Kennedy has written a letter explaining the circumstances, which he calls upon the Secretary to read.

The SECRETARY reads the following letter:

"GULA ESTATE, GULA, PERAK,
"FEDERATED MALAY STATES,
"*23rd June, 1920.*

"DEAR SIR,

"As circumstances have arisen that make it imperative for me to go home on leave for a few months, and as I shall, unfortunately, not be able to preside at the meeting on the 30th instant, I shall be glad if you will read this letter to the meeting next Wednesday.

"I wish to express my extreme regret to the meeting that I am unable to preside and also, that circumstances have recently arisen that make it imperative for me to proceed home on a few months' leave.

"Up till yesterday I had fully expected to be able to preside at the meeting on the 30th as I did not anticipate I should have to leave before early in July, and it was my intention to explain personally to the delegates the position in which I am placed, but I have just received word that my steamer is due to leave Penang on the 26th instant and I have no alternative but to go on that date.

"I can assure the members of the Planters' Association of Malaya that it is a deep disappointment to me not to be able to preside at the forthcoming meeting, and also that I shall not be able to carry out the work that is rightly mine for the whole year.

"I, however, ask the indulgence of the members in the matter.

"I have written privately to Mr. J. Bruce, the Vice-Chairman, and I am sure he will willingly carry on the work until my return about the end of the year.

"I trust the new rules will be duly passed at the meeting on the 30th and when those come into operation that they will be found materially to assist in the work of the Association.

"I should very much appreciate, if while I am at home, you will keep me well informed of all that is going on in connection with the work of the Association.

"Yours, etc.,
"(Sd.) J. W. KENNEDY.

"THE SECRETARY,
"PLANTERS' ASSOCIATION OF MALAYA,
"KUALA LUMPUR."

Mr. BRUCE says nobody regrets Mr. Kennedy's absence as much as he does. He wishes to know whether in the circumstances the meeting wishes to elect an acting Vice-Chairman for the period during which Mr. Kennedy will be away.

Mr. GRABURN enquires whether Mr. Bruce wishes a Vice-Chairman to be elected while he acts as Chairman.

Mr. BRUCE replies in the affirmative; but leaves the matter entirely to the meeting.

Mr. GRABURN suggests that Major Burn-Murdoch be elected Vice-Chairman.

MAJOR BURN-MURDOCH briefly and with thanks declines the honour.

Mr. HARMAN ORR asks how long Mr. Kennedy will be away.

Mr. BRUCE replies till the end of December this year.

Mr. FERGUSON thinks it is very unsatisfactory to have to carry on the work of the Planters' Association of Malaya without a Chairman. It is unjust to Mr. Bruce himself that he should be asked to undertake the work so soon after he has been elected Vice-Chairman. He thinks the best thing to do would be to elect Mr. Bruce as Chairman in place of Mr. Kennedy.

Mr. BRUCE states that Mr. Kennedy has not resigned the chair and while appreciating Mr. Ferguson's suggestions he would not agree to his own election to the chair.

Mr. HENDRIE asks those addressing the meeting to speak up as it is impossible to hear owing to half the members present being behind pillars and desks.

Mr. DUNCAN would like to say, on behalf of Mr. Kennedy, that no one was more sorry than Mr. Kennedy at having to go home. The necessity arose through illness. It is necessary for Mr. Kennedy to undergo an operation at home, and he was exceedingly sorry to have to go.

MAJOR GOUGH thinks it would be a most ungracious act for members of the Planters' Association of Malaya to speak in terms of disapproval of Mr. Kennedy's action. He had left for home because he was compelled to do so, not because he wanted to. In the past we have been much indebted to Mr. Kennedy and he is sure we shall be grateful to him in the future.

Mr. HARMAN ORR asks whether Mr. Kennedy was aware when he was elected in April that he would probably be leaving for home in June.

The SECRETARY replies to the effect that at the Planters' Association of Malaya meeting held in January last in Kuala Lumpur, Mr. Harvey stated on behalf of Mr. Kennedy that he would not stand for nomination for the chair of the Planters' Association of Malaya, as he expected to leave for home in April.

Mr. DUNCAN moves that the meeting pass to the next business.

Mr. BRUCE announces that the meeting has first to decide whether to elect an acting Vice-Chairman or not.

Mr. CUMMING suggests that Mr. Bruce be good enough to carry on. He says the Association will have a powerful and representative Standing Committee as the result of the new rules and if at any time Mr. Bruce is unable to attend meetings he could request a member of the Standing Committee to deputise for him.

2.—RULES.

Mr. BRUCE states that the amended rules have been circulated to members and he expects them to be conversant with the alterations which the Special Committee appointed for the purpose of scrutinizing the rules, had effected. However, he expects to find some difference of opinion mainly on the question of representation and he understands that the Negri Sembilan Planters' Association have sent in an amendment to one of the rules. He is not quite sure that any amendments ought to be allowed; but before ruling them out of order he wishes to get the sense of the meeting on the

point. At the last meeting, the Special Committee was appointed for the purpose of scrutinizing the rules, for hearing any objections to them, and, after amending them to meet with the desires of all concerned, to pass them. Further, such rules would come into force on being adopted by to-day's special general meeting. It seemed to him that it was recognized that the findings of the Special Committee should be final; but if the meeting wished to hear amendments and objections he would be pleased to hear anyone in support of that procedure being adopted.

Mr. HENDRIE says he has been asked by his Association to draw the attention of the meeting to page 6 of the agenda, the latter part of rule 19.

Mr. GOOCH draws attention to that part of rule 19 which provides that the chosen representatives of Constituent Associations need not necessarily be resident in the State or Territory to which the Constituent Associations belong. He refers to the method in vogue under the old rules of electing members of the Standing Committee and says that a few names are written upon a blackboard and the bearers of these names are declared elected. He would not like to say that this is an ideal method of obtaining the best men in the country. Constituent Associations do not want representation on the Standing Committee doled out to them as a favour: they want representation as a right. They want power to nominate one, or two, or three members to the Standing Committee as the case may be. The idea of the alteration of the rule was in order to make representation on the Standing Committee on an acreage basis. Each State would have the power to nominate a certain number of representatives according, or in proportion to, the number of acres under cultivation in that State. With all the rules the Negri Sembilan Association was in sympathy excepting part (*e*) of rule 18 dealing with the power to co-opt members, and the only alteration they sought was an amendment to rule 18, as follows:

> "To co-opt additional members, provided always that the total number of members of the Standing Committee shall not be more than one from each State in excess of the number eligible for election on an acreage basis as per rule 19 hereof.
>
> "The first of the additional members so co-opted shall be nominated by the Constituent Association or Associations domiciled in the State of Pahang until such time as Pahang shall become entitled to representation under the schedule in rule 19 hereof."

Mr. BRUCE says the question at issue is whether they are going to receive any further amendments to the rules or pass them as they stand. He asks the delegates present to signify whether they are in favour of listening to any further amendments.

Mr. GRAY proposes the rules as they appear on the agenda be passed. (*Vide* Appendix.)

Mr. DUNCAN thinks there is only one of two things before the meeting and that is to adopt the rules as they stand or to reject them.

Mr. FERGUSON seconds Mr. Gray's proposal which is put to the meeting and passed, 28 voting for and 6 against the motion.

Mr. BRUCE, therefore, declares the new rules carried.

The Secretary reads the following statements of accounts:

FEDERATED MALAY STATES WAR RELIEF FUND, SCHEME No. 2. STATEMENT OF ACCOUNT, 1st JANUARY TO 31st MARCH, 1920.

Receipts.	Amount.			Payments.				Amount.		
	£	s.	d.		£	s.	d.	£	s.	d.
Balance from last account	38,603	8	8	Grants and gratuiti						
Proceeds of Coupons, 5 per cent. National War Bonds	87	10	0	Mrs. ——	25	0	0			
Interest on Fixed Deposits	53	1	4	,, ——	20	0	0			
				,, ——	50	0	0			
				,, ——	30	0	0			
				,, ——	50	0	0			
				,, ——	10	0	0			
				,, ——	30	0	0			
				... ...	30	0	0			
				——	9	0	0			
				,, ——	15	0	0			
				Mr. ——	50	0	0			
				,, ——	150	0	0			
				,, ——	10	0	0			
				,, ——	20	0	0			
								499	0	0
				Postage, Telegrams and Sundries				0	8	4
				Balance in hand				38,244	11	8
	38,744	0	0					38,744	0	0

The Balance of £38,244 11*s.* 8*d.* is disposed of as under:

	£	s.	d.	£	s.	d.
Five per cent. War Loan (£12,000) at cost				11,400	0	0
Five per cent. National War Bonds				21,000	0	0
Four per cent. Funding Loan (£2,500) at cost				2,000	0	0
On deposit with Chartered Bank of India, Australia, etc.				3,500	0	0
Balance of Current Account in Chartered Bank	602	11	8			
Less cheques outstanding	258	0	0			
				344	11	8
				38,244	11	8

(Sd.) Wm. T. Taylor,
8th April, 1920.

I hereby certify that I have audited the above statement of receipts and payments with the books and vouchers of the Fund and find the same to be correct. The grants have all been duly authorized by the Committee.

(Sd.) A. H. Cullen,
Chartered Accountant,
Honorary Auditor.

73, Basinghall Street, E.C.,
14th April, 1920.

4.—PLANTERS' BENEVOLENT FUND OF MALAYA.

The SECRETARY announces that a pamphlet about the Planters' Benevolent Fund of Malaya entitled "Its History, Objects and Administration: and an Appeal" has been prepared by Mr. Harvey and himself. It has been decided to circulate this appeal to every planter and to Secretaries and Agents of all estates in Malaya. He states that the sum of $2,603.68 has been transferred to the Benevolent Fund from the Planters' War Relief Fund, in accordance with the resolution passed at the last meeting of the Planters' Association of Malaya.

Mr. BRUCE is sure the Fund will meet with the support it deserves. He says grants have been given in excess of their income. He thinks the Association should be grateful to Mr. Harvey for being responsible for the preparation of the pamphlet.

Mr. DUNCAN seconds the vote of thanks proposed by the Chairman to Mr. Harvey and wishes to express his hearty agreement with the appeal for subscriptions to the Benevolent Fund.

A vote of thanks is accorded unanimously to Mr. Harvey.

Mr. HARMAN ORR suggests that copies of the pamphlet be sent to the Rubber Growers' Association.

Mr. BRUCE informs Mr. Harman Orr that this has already been done.

5.—LABOUR.

(*a*)—GENERAL LABOUR COMMITTEE.

The SECRETARY tables the report of the General Labour Committee meeting held in Kuala Lumpur on May 31st and states that copies of the report are now available.

Mr. DUNCAN explains that there had been delays in issuing the report which were due not so much to the Committee itself as to circumstances over which the Committee had no control. It might be thought that the work of the Committee was not going ahead as quickly as it should, and he is glad of this opportunity of stating that the Committee's work was progressing as quickly as it possibly could.

Mr. GRAY asks whether Mr. Duncan can state when the Executive Committee will be able to issue its first report.

Mr. DUNCAN in reply states that the Executive of the General Labour Committee is to meet on the 7th July in Kuala Lumpur and he thinks that a preliminary report might be issued about the middle of July or at the latest at the end of that month.

Mr. GOUGH enquires whether the preliminary report referred to by Mr. Duncan is to be a report on Indian labour only or on labour generally.

Mr. DUNCAN, without committing the Executive Committee, believes the present idea is to confine the preliminary report to matters affecting only Indian labourers and Indian labour.

Major Gough wonders whether he would be in order if he suggested that the Executive Committee should appoint a sub-committee, a very small one, to make preliminary enquiries on the Chinese question so that when the Executive Committee had finished its Tamil report it would be so much time to the good with regard to the Chinese question, and would be able to get on with it more quickly when it comes to deal with Chinese matters.

Mr. Duncan promises that the Executive Committee will consider Major Gough's suggestion at their meeting to be held on 7th July.

Mr. Bruce understands that the Negri Sembilan Planters' Association are sending a resolution in similar terms to the Executive Committee.

(*b*)—Labour Code.

The Secretary submits the following correspondence :

"Kuala Lumpur,
"*5th May, 1920.*

"Sir,

"With further reference to your letter No. 6418/19, dated 26th February last, I have the honour to inform you that this Association is in favour of adopting the proposed new registration form to substitute for that prescribed by the third schedule of the Labour Code under section 66 of that Code.

"2. Further, the Association suggests that the thumb imprint of each cooly so registered be impressed in the "Remarks" column of the form under reference.

"I have, etc.,
"(Sd.) C. Ward-Jackson,
"*Secretary.*

"The Under Secretary to Government, F.M.S.,
"Kuala Lumpur."

"Kuala Lumpur,
"*7th May, 1920.*

"Sir,

"With further reference to your letter No. 6418/19 and mine of 5th May, I am directed to say that this Association suggests that the Labour Code be altered so as to empower the Controller of Labour to collect the one dollar fees for the registration of locally recruited coolies.

"I have, etc.,
"(Sd.) C. Ward-Jackson,
"*Secretary.*

"The Under Secretary to Government, F.M.S.,
"Kuala Lumpur."

"LABOUR OFFICE,

"*Penang, 19th May, 1920.*

"No. 14 in C. of L. 410/19.

"SIR,

"I have the honour to invite reference to your letter of the 13th of February last reporting that the Planters' Association of Malaya was in favour of the introduction of amendments in the Labour Code to provide for the care of labourers' dependents, and to enclose for the consideration of your Association a draft Bill amending the Labour Code.

"2. Sections 5, 6 and 10 deal with the question of temporary cooly lines.

"3. The rest of the Bill deals with children and dependents of labourers.

"4. Section 2 of the Bill provides for a creche and a decision is required as to the age of the infant to be accommodated therein and as to whether employers should be required to provide food (milk) free of charge—vide sub-section (ii), and I am to ask for the opinion of your Association on these points. I am inclined to think that six, or seven years, would be a fair age limit of the infants to be accommodated in the creche.

"5. Sections 7 and 8 deal with the question of hospital expenses for dependents (sections 203 and 204 of the Labour Code).

"Under the present law, the employer pays for a contract labourer as long as he remains in hospital and for an engagement labourer up to 30 days.

"This Bill creates similar liabilities for dependents of labourers, who include wife, father, mother, children and adopted children under 16, who are living with and are dependent on the labourer.

"This matter was not brought to the notice of your Association in the letter of my predecessor dated the 9th of January last and the Chief Secretary to Government instructs me to submit it for consideration.

"In doing so I would invite reference to the definition of 'Indian Labourer' in section 150 of the Labour Code which reads: 'Indian labourer means an Asiatic native of the Madras Presidency of British India *of the age of fourteen years and upwards* who is employed, etc.' Possibly the limit of sixteen in definition of 'Dependent of Labour' in draft section 187 should be altered to fourteen years.

"6. I shall be obliged by a reply at your earliest convenience.

"I have, etc.,

"(Sd.) OLIVER MARKS,

"*Acting Controller of Labour, F.M.S.*"

A BILL INTITULED 7TH MAY, 1920.

An Enactment to further amend the Labour Code, 1912.

It is hereby enacted by the Rulers of the Federated Malay States in Council as follows:

1. (i) This Enactment may be cited as "The Labour Code, 1912, Amendment Enactment, 1920," and shall come into force upon the publication thereof in the *Gazette*.

(ii) This Enactment shall be read and construed as one with "The Labour Code, 1912," hereinafter called "the principal Enactment," and copies of the principal Enactment printed after the commencement of this Enactment may be printed with the amendments made by this Enactment.

2. Immediately after section 107 of the principal Enactment there is inserted a new section, as follows:

(i) 107A. The Controller may at any time by order in writing require any employer on any estate, factory, mine or place in which more than fifty female labourers are employed to construct within a reasonable time to be stated in such order and thereafter to maintain at his own expense a nursery properly equipped to the satisfaction of the Controller on or in the immediate neighbourhood of such estate, factory, mine or place on a site to be approved by the Controller, with accommodation for such number of infants under the age of.....
.....as stated in such order and may further require him to employ such number of nurses as may be stated in the order to have charge of such nursery.

(ii) The order may state the hours during which the nursery shall be open for the accommodation of infants, and the amount and description of food to be supplied for each infant at the expense of the employer.

3. Section 187 of the principal Enactment is amended by inserting at the end of the interpretation "Labourer" the words "and except in sections 203, 211 (i) and 214 (ii) includes his dependents" and by inserting immediately after the interpretation "Labourer" a new interpretation as follows—"Dependent" of a labourer includes such of the members of the labourer's family—namely, wife, father, mother, and children and adopted children under the age of sixteen, who are living with and dependent on him.

4. Section 190 of the principal Enactment is amended by deleting from sub-section (i) the words "and sanitary" in line 3 and substituting therefor the words "sanitary and safe."

5. Section 192 of the principal Enactment is repealed and the following section is substituted therefor: 192. (i) Subject to the exceptions contained in this sub-section, no lines shall be erected by an employer upon any estate or upon other land adjacent to an estate unless

(*a*) the lines are erected in general accordance with one or other of the designs (hereinafter called standard designs) prepared by order of the Chief Secretary to Government and approved by the Medical Officer as suitable for the accommodation of labourers according to the nature of the site selected (copies of which shall be obtainable free of charge by any employer on application to the Controller) and are of such materials as are thereon specified, or

(*b*) the permission of the Controller to erect lines otherwise than as aforesaid has been obtained.

Exception I.—Lines not in accordance with a standard design may be erected for occupation for a period not exceeding three years on or within two hundred yards of, and for the purposes of, land which has been cleared for planting within the two years next preceding such erection and may be occupied for a period not exceeding three years after the clearing of such land for planting.

Exception II.—Lines not in accordance with a standard design may, with the approval of the Medical Officer, be erected for occupation for a period not exceeding two years on such site as the Medical Officer approves.

(ii) The Controller may order an employer to remove any lines under such employer's control which have been erected, or are occupied, in contravention of sub-section (i).

(iii) Drains shall be carried to such distance as the Medical Officer shall in each case order.

6. Section 193 of the principal Enactment is amended by deleting the words "intended for permanent use" in line 1 and substituting therefor the words "which are not within the scope of the exceptions contained in sub-section (i) of section 192."

7. (i) Section 203 of the principal Enactment is amended by inserting in sub-section (i) immediately after the words "employed on the estate" in line 4, the words "and shall also bear the expenses of the maintenance and treatment in such hospital of the dependents of such contract labourer so long as they remain in such hospital," and by deleting sub-section (ii) thereof, and substituting therefor the following sub-section:

(ii) In the case of a labourer who was employed under an agreement or of any dependent of such labourer the employer shall defray the expenses of maintenance and treatment in such hospital so long as the labourer or any of his dependents remain in hospital, but may

recover from such labourer the expenses of such treatment and maintenance at such rate as the Controller, with the approval of the Chief Secretary to Government, may from time to time prescribe by notification in the *Gazette* in respect of any period in excess of thirty days during which such labourer or any of his dependents shall have remained in the hospital."

8. Section 204 of the principal Enactment is amended by deleting the word "his" in line 4 and by inserting immediately after the words "in such hospital" in line 4 the words "of such labourer and of any dependent of such labourer" and by inserting immediately after the words "expenses in hospital" in the last line the words "in respect of any labourer or dependent."

9. Section 214 of the principal Enactment is amended by inserting in sub-section (ii) immediately after the words "wilfully disregarding" in line 1, the words "or allowing his dependent to disregard," and by inserting immediately after the words "to go to hospital," in line 3, the words "or to send his dependent to hospital."

10. Section 217 of the principal Enactment is amended by deleting paragraph (*b*) and substituting therefor the following paragraph:

(*b*) erect or cause to be erected any lines in contravention of sub-section (i) of section 192, or neglect or refuse to comply with an order made under sub-section (ii) of section 192.

The SECRETARY points out that the Controller of Labour asks for the Association's opinion of the draft bill.

Mr. CARTER enquires whether estates will have to provide feeding bottles and other paraphernalia for infants.

Mr. BRUCE proposes, and Mr. GRAY seconds, that the matter be referred to the new Standing Committee when elected.

This is agreed to.

(*c*)—GENERAL.

The SECRETARY submits the following correspondence:

"OFFICE OF CONTROLLER OF LABOUR,
"S.S. AND F.M.S.
"KUALA LUMPUR,
"*21st May, 1920.*

"No. 146/20.

"SIR,

"With reference to the letter of 8th April last addressed to you on the subject of the free treatment in Government hospitals of maternity cases of the families of labourers, I have the honour to

inform you that it has been brought to my notice that as accommodation in hospitals is limited an attempt should be made to reduce as much as possible the period of stay in the hospital of pregnant women prior to confinement.

"2. With this end in view it has been suggested that pregnant women should be examined by estate medical officers and not by lay men who cannot be expected to know how far a pregnancy is advanced, and that cases should be sent to hospital just a few days before confinement is expected.

"3. I would request you to be so good as to bring the above suggestion to the notice of the members of your Association with a view to its observance.

"I have, etc.,
"B. F. BRIDGE,
"*Acting Controller of Labour, F.M.S.*

"THE SECRETARY,
"PLANTERS' ASSOCIATION OF MALAYA,
"KUALA LUMPUR."

Mr. BRUCE asks members of the Association to note the Controller of Labour's suggestions regarding the examination of pregnant women by estate medical officers.

The SECRETARY submits the following correspondence:

"LABOUR OFFICE,
"PENANG,
"*2nd June, 1920.*

"2 in I.I.O. (Misc.) 629/20.

"SIR,

"I have the honour to enclose for the information of the Planters' Association of Malaya a copy of a letter from the manager of Heawood Estate, forwarding a Tamil letter signed by Mr. R. Davison, of which I enclose a copy and a translation which appears to give *prima facie* evidence of an 'attempt to seduce or take a labourer from his employment.'

"2. The case seems to me to be one for prosecution by the manager of Heawood Estate in which the Controller of Labour can do nothing, but I forward the correspondence to you so that it may receive the maximum amount of publicity amongst the planting community.

"I have, etc.,
"(Sd.) OLIVER MARKS,
"*Acting Controller of Labour, F.M.S.*

"THE SECRETARY,
"PLANTERS' ASSOCIATION OF MALAYA,
"KUALA LUMPUR."

"The Heawood Tin and Rubber Estate, Limited,
"Heawood (Rubber),
"Sungei Siput,
"*27th May, 1920.*

"Sir,

"May I have the honour to draw your attention to the enclosed letter, received by one of my kanganies from the manager of Sungei Sungkai Estate, Sungkai.

"In it will be found a candid admittance that one of his coolies previously came to this estate (without gaining permission here to enter our lines) and talked with this kangany.

"The day following receipt of this letter, a kangany from Sungei Sungkai Estate was caught in the same lines—having previously visited another division—talking on the subject of these coolies following him to Sungkai.

"Still further, a day later we had a visit from two more coolies from Sungkai. All three were charged at the Kuala Kangsar Court on 25th inst. and fined $10 each or one month's imprisonment—with regard to the letter we were informed it was clearly a case for the Controller of Labour and I would be obliged if you would take the matter in hand.

"The Sungei Siput village is a hot-bed for crimping just now, and it is only fair to everyone here that we should draw the attention of those in authority to this case.

"I have, etc.,
"(Sd.) F. D. Dewson.

"The Deputy Controller of Labour,
"Penang."

Translation.

The manager of Sungei Sungkai Estate informs Ayyan kangany as follows :

Pappu has come and told me, after seeing you that you said that you were anxious to come here. On that account I am anxious to receive you. So if you and any of your coolies come and are prepared to do what I tell you without any nonsense I will take you on.

7th May, 1920. (Sd.) R. Davison.

Mr. Bruce understands that some additional correspondence from Mr. Davison has been received by the Secretary. He does not know whether the matter under reference is one which interests the Association as a body or not. In fact he thinks it is not within the scope of the objects of the Association to protect one member against another, and is not sure whether the correspondence should have been forwarded to the Association

and been printed with the agenda. He expresses the opinion that if the Controller of Labour was dissatisfied with the matter and thought there was a case against Mr. Davison, he should have communicated with the Deputy Public Prosecutor instead of with the Association. He asks whether members wish to hear Mr. Davison's further replies to the charge laid against him. If so, the correspondence can be read. He does not think, however, that the Association should proceed further with the matter.

Mr. FERGUSON avers that it is only fair to Mr. Davison that the additional correspondence should be given publicity equal to that accorded to the correspondence forwarded by the Controller of Labour.

Mr. GRABURN agrees, and says that Mr. Davison is present in order to make a personal explanation if necessary.

The SECRETARY reads the following correspondence:

"SUNGEI SUNGKAI ESTATE,
"SUNGKAI,
"PERAK, F.M.S.,
"*19th June, 1920.*

"DEAR SIR,

"With reference to the allegations of crimping made against me by the manager of Heawood Estate, Sungei Siput, I should like to state my side of the case.

"The most important point, which is nowhere shown in the letter written by him to you is that the kangany mentioned, Ayavu, and his 19 coolies are old coolies of mine, all of whom were recruited by me from India, and who had been many years on this estate. They were induced, by what methods I do not know, to give notice here on 1st January this year and left on 31st January, going to Heawood Estate direct as far as I know. The kangany sent me a verbal message about 3rd May by the man Pappoo, who happened to have been visiting him (he was *not* sent by me) at Sungei Siput that he would like to return if I would take him back. Previous to this I had no idea that he wished to return, although I naturally hoped it, his gang being an old-established one on this estate. On receipt of this information I caused to be written the Tamil letter (which has been wrongly translated into English) shown, and signed it with my name. If I had had any intention of 'crimping' him (i.e., inducing him to abscond and evade his legal liabilities) is it likely that I should have signed my name? The gang being old coolies of mine, and the initiative having come from them, I felt justified in letting them know that if they returned after having been duly paid off and discharged (this being taken as a matter of course—a large gang of coolies cannot very well bolt) I would take them *back*. This is where the mistranslation of my letter occurs. The word 'here' in the second line should read '*back*', 'receive' should be 'take you *back*', the last word 'on' should be 'back'. 'Anxious' is, of course, a Tamil krani's rendering and should be 'willing'. You will note that these words make a very considerable difference. The translation cannot be accepted unless made by an unbiassed expert.

"Not knowing on which estate the gang were, I had the letter directed to the Tamil address given me. I am quite prepared to prove all the facts stated, and if the manager of Heawood Estate thinks he has a case I am quite ready to defend it in a court of law. Whatever the result, I do not think public opinion will be entirely on his side.

"I have had great trouble with coolies absconding to Sungei Siput. About 16th May I sent up a kangany with a warrant for an absconding cooly named Narayanan who was believed to be on Heawood Estate. I instructed the kangany to take a policeman with him from Sungei Siput, but this he omitted to do as he thought the man would be frightened by the sight of a policeman and hide, and his idea was to find out in which line the man was and then go back for the policeman to arrest him. Meanwhile the estate management apprehended the kangany and prosecuted him for trespassing, on which charge he was fined $10. All of this he duly reported on his return to the estate. He also reported that this matter of Ayavu kangany and the letter was brought up at the same time at the Kuala Kangsar Court, and Ayavu stated to the Magistrate that he and his coolies had been employed on Sungei Sungkai Estate for many years and admitted that he sent a message to me that he was sorry for having left and wished to return if I was willing to take him back. After all the fuss that has occurred he is, of course, now too frightened to suggest leaving.

"As regards the other men mentioned as having visited Heawood Estate from here trying to crimp, I have no knowledge of these. The manager of Heawood Estate may be surprised to learn that Sungkai is also a hot-bed of crimping, and not a few of the crimpers come from Sungei Siput.

"Yours faithfully,

"R. Davison.

"The Secretary,

"Planters' Association of Malaya,

"Kuala Lumpur."

"Sungei Sungkai Estate,

"Sungkai,

"Perak, F.M.S.

"*20th June, 1920.*

"Dear Sir,

"Further to my letter of 19th inst., I do not appear to have made it clear that the manager of Heawood Estate never communicated with me before reporting his version of the case to the Controller of Labour, a fortnight after the occurrence. The first intimation I had of his proceedings was when I read the minutes of the Planters' Association of Malaya agenda. Having been thus stabbed in the back without any opportunity of defending myself, and with the knowledge that the matter would be broadcasted by

means of the Press, it was my duty to state my side of the case immediately by the same medium, which I have done by forwarding copies of my two letters. Had I not done so the delegates to the forthcoming Planters' Association of Malaya meeting would have come to Penang with a decided bias against me, which would be natural their having only heard one side, which, as the Controller of Labour writes, 'makes out *a prima facie case.*'

"I have now had the opportunity of obtaining the loan of a copy of the official statistics of 'Labour employed on estates in Perak in 1918,' taken from the report of the Labour Department for that year (the latest published) from which I extract the following interesting figures regarding Tamil labour:

	Number at 1st Jan., 1918.	Imported.	Locally engaged.
Sungei Sungkai Estate	328 ...	154 ...	18
Heawood Estate ...	490 ...	79 ...	383

"The percentage of imported coolies and locally engaged coolies to original labour force as at 1st January, 1918, works out as follows:

	Number at 1st Jan., 1918.	Imported.	Locally engaged.
		Per cent.	Per cent.
Sungei Sungkai Estate	328 ...	46.19 ...	5.5
Heawood Estate ...	490 ...	16.1 ...	78.1

"I forward these figures without comment: the planting community can form their own conclusions. There has been no change of management on either estate during or since the year in question. I may say that out of 332 estates in the list issued by the Labour Department Sungei Sungkai comes 22nd in order of merit as regards the number of coolies imported from India. Of the remaining 21, only one is smaller than this estate, the rest much larger, mostly two or three times as large. The coast recruiting of this estate has been consistently good for years, as is well known locally, and the management has been identical for over seven years. At the end of the year in question, after recruiting 154 coast coolies the estate was only 14 to the good. I welcome this publicity, as I hope it will prevent my losing any further gangs of coast coolies.

"I shall be present at the Planters' Association of Malaya meeting at Penang on 30th inst., and shall be glad to give any further details if necessary and prove the danger of stone-throwing by people who live in glass houses.

"Yours faithfully,

"R. Davison,

"*Manager.*

"The Secretary,

"Planters' Association of Malaya,

"Kuala Lumpur."

"SUNGEI SUNGKAI ESTATE,
"SUNGKAI,
"PERAK, F.M.S.,
"*22nd June, 1920.*

"DEAR SIR,

"Further to my letter of 19th inst., it has since been suggested to me that the letter from the Controller of Labour might be held to convey that the translation of the Tamil letter had been made in his office. If this is so, I owe the Controller an apology for apparently implying that he and his staff are not 'unbiassed experts.' However, it never occurred to me that the Controller had done more than forward on to you the letter from the manager of Heawood Estate together with the Tamil letter and the Heawood Estate management's translation. This I still believe to be the case. Even if not, I maintain that the letter is capable of a very different translation. The issue is between the manager of Heawood Estate and myself and I am sorry that the Controller of Labour has been dragged into it.

"Yours faithfully,
"R. DAVISON,
"*Manager.*

"The SECRETARY,
"PLANTERS' ASSOCIATION OF MALAYA,
"KUALA LUMPUR."

Mr. BRUCE asks whether Mr. Davison wishes to add anything to these letters.

Mr. DAVISON says he has very little to add to the letters save that he feels very strongly on the matter and wishes to make it clear that until he received the agenda he had no idea that the correspondence had been published. He was also surprised to find that certain newspapers had copied it. He states that the matter had not been referred to him, and in his view it was by no means a fair way to treat a man behind his back. He thinks he is entitled to an apology from those responsible for causing the correspondence to be published.

Mr. BRUCE explained the publication was made without the knowledge of the Standing Committee, and he repeats that he does not think that the matter is one which should have been dealt with by the Association.

The SECRETARY explains that it has always been usual to publish correspondence that is sent in by high Government Officers, and the correspondence under reference was forwarded by the Controller of Labour who is also British Resident of Selangor. He thought this a sufficient justification for its inclusion with the agenda, and pleading these extenuating circumstances, he tenders to Mr. Davison his whole-hearted apology.

Mr. BRUCE hopes that the Secretary's apology will satisfy Mr. Davison.

The SECRETARY points out that the incident shows the absolute necessity for and desirability of the Standing Committee settling the agenda of meetings. He says he has many times asked the Standing Committee to do this and is of opinion that it is not fair to expect the Secretary to be entirely responsible for the agenda. He calls attention to a statement made by Mr. Davison in his letter of the 20th June in which he says "I welcome this publicity," and he is glad to have been the means of providing Mr. Davison with the publicity he so heartily welcomes.

Mr. DAVISON accepts the Secretary's apology and as the matter will receive full publicity he is content to let it drop.

The SECRETARY reads the following correspondence from the Madura Co.

"NEGAPATAM,

"*4th June, 1920.*

"No. Special.

"DEAR SIR,

"We enclose for your information a comparative statement showing the number of emigrant coolies shipped at Madras and Negapatam, January to May, 1919, and 1920, respectively: two minors are, throughout, counted as one adult.

"In the net result, Madras has, in 1920, shipped 7,570½ coolies in excess of 1919 figures; but this is accounted for by the fact that the Madras Depôt was fully closed down, on account of cholera, January to March, 1919, and partially during April and May of that year—Madras shipments therefore must be accepted as normal.

"We, however, wish to draw your special attention to the extraordinary poor results at Negapatam,—viz., 11,596 in 1920 as compared with 23,704½ in 1919, or a falling off of 12,108½ coolies.

"Improved conditions of employment and food on this side are no doubt partly responsible; but enquiries we have made do not tend to show that prevailing conditions, as regards food costs, etc., in the Northern districts (serving Madras) are any inferior to those in the Southern districts (serving Negapatam).

"In an average year, Negapatam shipments should be about double those made at Madras; and, on this basis, Negapatam should have shipped about 20,000 coolies against the 11,596 actually shipped, and coolie arrivals here show no indication of improvement.

"The question, as a whole, has received our closest consideration; and we trust that, if our conclusions may in part appear to reflect criticism of a system generally accepted as sound in principle, it will be recognized that we have no intention of casting any reflection on individuals, whether officials or non-officials.

"The root of the trouble, in our opinion, exists on your side, in the pernicious growth of, what is politely termed, 'local recruiting,' but which is more generally known as 'crimping.'

"The position of the manager of an estate is not an enviable one: he must have labour; and if he recruits from India, he runs the risk of the professional crimper's attentions; and, if he indulges in 'local recruiting,' his action is looked on askance.

"When a manager receives coolies who leave the estate either by summarily bolting or by the legalized device of giving notice, the manager naturally complains to his Financial Agents in India, who in due course pass on the complaints to the Depôt Superintendents on this side.

"The Superintendent very naturally intensifies the inspection of, and enquires into, the 'bona fides' of coolies brought to his depôt for shipment; and the percentage of coolies rejected goes up.

"The kangany is then hit; and as he is a gentleman given to exaggeration, the rumour is quickly spread that coolies are being rejected wholesale and recruiting generally is discouraged.

"The matter for present consideration, comes under two main heads—viz.:

(*a*) Protection of the individual estate against loss caused by coolies leaving the estate;

(*b*) Assurance of as plentiful a supply of labour as possible, to the Straits Settlements, and Federated Malay States.

"Under existing arrangements, these two desiderata are in opposition; and, with the increasing demand for labour in Malaya, the position is likely to be aggravated as time goes on.

"Your Labour Ordinance, in effect, provides that the labourer shall have perfect freedom of action in the choice of his employment; and we agree that it would be inadvisable to legislate towards forcing the labourer to fulfil an implied contact with his employer.

"On the other hand, the employer cannot be expected to recruit for the benefit of his neighbours.

"In the discharge certificate, which we believe is more or less general on your side, there is an attempt to bind an employer not to engage a labourer who has not secured a proper release from his previous employer; we think you will agree, however, that in actual practice the value of these certificates is nullified, chiefly no doubt because many employers are not associated with your various District Planters' Associations.

"We are given to understand that the impending Ceylon Labour Ordinance, in its final form, will countenance an advance of Rs. 15 paid to each coolie at time of shipment. A coolie transferring his employment, will carry this debt with him for such time as it is paid up; but under no circumstances will the law admit of any further debt obligation between the labourer and the employer.

"We do not advocate the extension of this procedure to Malaya for obvious reasons; but we submit that you may find it to your interests to introduce a modified form of the Ceylon innovation—the debt to be between employer and employer, instead of between employer and employed.

"Supposing, for argument sake, that the average recruiting cost of a coolie landed on an estate is $20; and that it takes two years' service for the estate to recoup itself in full for such cost: a coolie leaving an estate within three months of arrival would have it noted on his discharge certificate that the balance recruiting cost outstanding to the estate is $20; between three and six months, $15; between six and nine months, $12.50; between nine and twelve months, $10; and so on.

"It would be agreed between estates that an estate taking on a discharged coolie would pay the amount noted on the discharge certificate to the previous employer; and to obviate any misunderstanding, it might be arranged to have a running discharge certificate, which would originally be issued by the recruiting estate, such discharge certificate could be kept in the possession of the employer for the time being, and be passed on with the coolie from one estate to another.

"The above suggestion may be crude; but we can think of no alternative method which will ensure the dual objects which we feel you must have in view in common with us—viz., the protection of the estate against organized crimping and the assurance of a free supply of labour from this side.

Bolters, pure and simple, will remain a problem and source of loss; but the point we wish to urge is that the more restriction you place on recruiting the shorter will labour become with you, and crimping battens on labour shortage.

We have addressed a similar letter to the Honorary Secretary, Malacca Planters' Association.

"I have, etc.,

"M. H. Ray,

"*Manager, Madura Co., Ltd.*

"The Secretary,

"Planters' Association of Malaya,

"Kuala Lumpur."

P.S.—It may be argued that any relaxation in the inspection of emigrants on this side will tend to increase "bolting" from estates; but, provided coolies shipped to estates continue to be confined to "bona fide" agricultural labourers, we think you will find that any small increase in the incidence of bolters will be more than off set by the larger numbers sent across, and the financial protection afforded by the discharge certificate recommended by us.

STATEMENT OF STATE-AIDED COOLIES SHIPPED AT MADRAS AND NEGAPATAM.

During January–May of 1919 and 1920, respectively.

Month.	1919.			1920.		
	Shipped at Madras.	Shipped at Negapatam.	Total.	Shipped at Madras.	Shipped at Negapatam.	Total.
January...	Nil.	2,002	2,002	1,359	1,707½	3,066½
February	Nil.	3,245	3,245	1,927½	1,734	3,661½
March	Nil.	4,710½	4,710½	1,979½	1,999	3,978½
April	874	2,844½	3,718½	2,029	2,310	4,339
May	1,628	10,902½	12,530½	2,777½	3,845½	6,623
Grand Total ...	2,502	23,704½	26,206½	10,072½	11,596	21,668½

"I have, etc.,

"M. H. RAY,

"*Manager, Madura Co., Ltd.*

NEGAPATAM,
4th June, 1920.

"NEGAPATAM,
"*14th June, 1920.*

"No. Special.

"DEAR SIR,

"In reference to our letter of 4th instant, it has been suggested to us that the reference made by us as regards the falling off in emigrant shipments at Negapatam, may be taken to infer that we consider that the Superintendent of the local emigration depôt is too strict in his inspection and passing of coolies.

"If such impression is created, we hasten to correct it, as we are quite satisfied that the care and attention bestowed by Dr. Foston in the selection process is fully justified under present conditions, which require that estates must be protected against the shipment of coolies who, for any reason, may be suspected as not likely to remain on the estates for which they are recruited.

"Our argument is that strict attention to the special requirements of individual estates tends to hamper free recruiting; and, in this view, we feel that, if protection against financial losses in recruiting is afforded to estates, these will be less disposed to complain if coolies leave within a short period of arrival.

"While it has been decided that a kangany commission of Rs. 10 per head is sufficiently high, we note a decided tendency to increase the preliminary advances made to kanganies.

"Having your interests at heart, we cannot help but regret this tendency, as it is our experience that big advances very seldom ensure the results intended.

"Viewed as a whole, there appears to be an unhealthy competition abroad to secure labour whatever it may cost, and the only visible means of subduing this competition is to increase the supply of labour.

"I have, etc.,
"M. H. RAY,
"*Manager, Madura Co., Ltd.*

"THE SECRETARY,
"PLANTERS' ASSOCIATION OF MALAYA,
"KUALA LUMPUR."

Mr. BRUCE thinks these letters should be referred to the General Labour Committee who may find them useful.

The SECRETARY reads the following letter:

"KUALA LUMPUR,
"FEDERATED MALAY STATES,
"*24th June, 1920.*

"No. G. 3036/20.

"SIR,

"I am directed to acknowledge the receipt of your letter dated 7th May, 1920, on the subject of a suggestion that the Labour Code should be altered so that the Controller of Labour should collect the one dollar fees for the registration of locally recruited labourers and in reply to point out that under section 66 (*i*) of the Labour Code the statements of locally engaged labourers are sent to the Deputy Controller of Labour, and other labour officers together with a fee of $1 for each labourer named in the statement.

"I have, etc.,
"A. S. JELF,
"*Acting Under Secretary, F.M.S.*

"THE SECRETARY,
"PLANTERS' ASSOCIATION OF MALAYA,
"12, MARKET STREET,
"KUALA LUMPUR."

Mr. HENDRIE says he has been asked by Mr. Harrison, who made the suggestion contained in the letter just read, to point out that what he meant was not what had been understood. Mr. Harrison wanted the onus of taking action in regard to the collection of registration fees to rest entirely upon the Controller of Labour. What the Government now agreed to do was already provided for in the Labour Code. The suggestion was that the Controller of Labour should take action in cases where the engagement of locally recruited coolies was not registered with him.

The Secretary is instructed again to communicate with the Controller of Labour.

6.—FOOD.

The SECRETARY submits the following correspondence:

"*7th May, 1920.*

"SIR,

"I have the honour to forward for your information excerpts from the minutes of the last meeting of this Association which was held on 28th April last on the subject of rice.

"I have, etc.,
"C. WARD-JACKSON,
"*Secretary.*

"THE FOOD CONTROLLERS, S.S.,
"SINGAPORE."

The SECRETARY says he has received the following reply from Mr. Lee-Warner, Secretary to the Food Controller.

The SECRETARY submits the following correspondence:

"FOOD CONTROLLER,
"SINGAPORE,
"*11th June, 1920.*

"No. 765/20.

"SIR,

"I am directed by the Food Controller to thank you for your letter of 7th June, 1920, enclosing excerpts from your Association's minutes *re* reports of rice seen at Sumatra ports.

"2. The question of thefts and smuggling is receiving, and has received the close and constant attention of the Food Control Department.

"In addition to other measures for the checking of exports, a special preventive force has recently been organized in Singapore with very satisfactory results.

"3. I am to point out that—e.g., at Belawan, Deli, there must be numerous occasions when large quantities of rice bags on tongkangs must be seen, since both from Saigon *and Singapore* the N.E.I. Government imports rice.

"In fact—by arrangements, now of long standing duration, and arrived at between the Governments of the Colony and of the N.E.I.—the K.P.M. at Singapore stores N.E.I. Government's rice in large quantities in Singapore as an entrepôt for distribution to the Dutch Islands. Many thousands of bags of this N.E.I. Government rice are thus shipped, monthly under the cognizance of the F.C. Department of the S.S., from Singapore.

"I have, etc.,
"W. H. LEE-WARNER,
"*Secretary to the Food Controller.*

"C. WARD-JACKSON, ESQ.,
"PLANTERS' ASSOCIATION OF MALAYA,
"12, MARKET STREET,
"KUALA LUMPUR."

"Office of the Director of Food Production,
"F.M.S. and S.S.,
"Kuala Lumpur,
"*18th May, 1920.*

"No. 4 in 77-20.

"Sir,

"I have the honour to inform you that as Government has decided to increase the price of rice to a figure which approaches the cost, the order to reduce the ration in the case of employers who are unable to cultivate foodstuffs will not be enforced.

"2. I need scarcely say that those who can plant foodstuffs successfully, are strongly advised to continue to do so, as until we know what the crop prospects from Siam, etc., for next harvest are, the situation is by no means too clear.

"I have, etc.,
"F. W. Douglas,
"*Ag. Director of Food Production,*
"*F.M.S. and S.S.*

"The Secretary,
"Planters' Association of Malaya,
"Kuala Lumpur."

"Office of the Deputy Food Controller,
"F.M.S. and Malacca,
"Kuala Lumpur,
"*1st June, 1920.*

"No. 1 in D.F.C. 85/20.

"Sir,

"I understand that at a labour meeting held yesterday the general complaint was that the coolies were not getting sufficient rice and that this was causing difficulty in recruiting labour.

"2. As from 1st July estates can make up their 90 per cent. parboiled to the full ration with white rice drawn locally.

"3. I understand however that the four-gantang ration is not considered sufficient. Would planters be prepared to pay at $1.44 per gantang—i.e., to ensure Government against loss and draw a five-gantang ration if we can purchase it.

"I have, etc.,
"F. W. Douglas,
"*Deputy Food Controller,*
"*F.M.S. and Malacca.*

"The Secretary,
"Planters' Association of Malaya,
"Kuala Lumpur."

"Office of the Deputy Food Controller,
"F.M.S. and Malacca,
"Kuala Lumpur,
"*21st June, 1920.*

"No. 2 in D.F.C. 101/20.

"Sir,

"I have the honour to forward herewith some suggestions which may enable planters to obtain rice cheaper when Food Control ceases.

"2. By combining and placing large contracts for a whole year for imported rice they free themselves from market fluctuations and would be able to take advantage of the market price at harvest time.

"I have, etc.,
"F. W. Douglas,
"*Deputy Food Controller,*
"*F.M.S. and Malacca.*

"The Secretary,
"Planters' Association of Malaya,
"Kuala Lumpur."

"During Food Control, Port Swettenham has for the first time been used for the direct importation of rice. Usually all rice for the Federated Malay States is imported through Penang or Singapore and the handling charges at and local freight from these places adds three cents a gantang to the price.

2. The total monthly consumption of rice both white and parboiled in an area of 100 miles rail from Port Swettenham is about 7,000 tons under Food Control. It is probably 10,000 tons when Burma rice is cheap.

The market is therefore quite large enough to employ steamers on the direct trade from Burma and save $9 a ton local charges and freight.

3. Selangor having no local rice crops is absolutely dependent on imported rice and I suggest that the planters living at any place, with a station within 100 miles of Port Swettenham, should combine to purchase their parboiled and white rice in Burma and import it direct by monthly shipments. The Food Control has built a corrugated iron godown at Port Swettenham which will hold 60,000 bags, so there will be no difficulty about storage.

4. Perak planters could contract to take the whole output of the mills in Krian and this would give them enough parboiled for 10 months at any rate and would give padi planters in Krian a certain market and perhaps encourage others.

5. In making these suggestions I do not propose that the local traders should be cut out entirely rather the reverse—if the planters selected a local trader as their agent, it would probably lead to all the local Selangor rice being imported direct and thus cheapen the supply to the whole community."

"OFFICE OF AGENT FOOD CONTROLLER,

"PENANG,

"*June, 1920.*

"NOTICE.

"INCREASE OF RICE RATIONS.

"It is notified to estates and employers of labour who are registered with the Agent Food Controller, Penang, for supplies of parboiled rice, that the Government have decided to increase the rations for their rice-eating employés as from the 1st July to the following quantities:

Adult males	5	gantangs
„ females	4	„
Children, 12 to 18	4	„
„ 5 to 12	$2\frac{1}{2}$	„
„ under 5	$1\frac{1}{4}$	„

"Owing to difficulty at the present time in obtaining parboiled rice from Burmah it is not possible to increase the quantity of the parboiled rice allowance, but supplies of white rice, sufficient to make up the quantity of the full ration as stated above, may be obtained by registered estates and employers of labour through their respective local Government Rice Agents.

"The parboiled rice allotment for July has been fixed at 90 per cent. of the quantity at which estates and employers of labour are assessed on the old ration scheme—(i.e., four gantangs for adult males, etc.), and an additional one and two-fifths gantangs of white rice is therefore obtainable through Government Rice Agents for each adult and a proportionate quantity for each child.

"(Sd.) D. A. M. BROWN,

"*for Food Controller, S.S. and F.M.S.*"

The SECRETARY reads a private letter which Mr. F. W. Douglas has just very kindly sent in:

> "I see the Perak planters were under the impression they would have to pay extra for their five-gantang ration.
>
> The Food Controller has decided to issue it all at the general rate $1.38 a gantang."

Mr. BRUCE suggests that the Association's thanks should be accorded to Mr. Douglas for the suggestions forwarded with his letter of June the 21st.

This is agreed to.

7.—LICENSING OF COPRA DEALERS.

The SECRETARY submits the following correspondence :

"PLANTERS' ASSOCIATION OF MALAYA,

"KUALA LUMPUR,

"*7th May, 1920.*

"LICENSING OF COPRA DEALERS.

"SIR,

"With further reference to previous correspondence on this matter and to the Government's decision not to introduce legislation to enforce the licensing of copra dealers, I have the honour to point out that some few months ago a petition, which was signed by almost all European coconut planters and native holders in the district, was addressed to the District Officer, Lower Perak, favouring the compulsory licensing of copra dealers.

"2. At the last meeting of the Federal Council, in reply to a question on this subject by the Hon. Mr. F. G. Harvey, the Chief Secretary said 'that the Residents had all expressed their opinion against these (licences). He did not think it was fully understood how the granting of these would affect a large number of coconut planters. He felt sure they would not appreciate the extension of licences to copra. He had looked through the statistics of thefts and they did not show that licensing would be justified.'

"3. I am directed to call your attention to the fact that this Association asked for legislation making it incumbent upon copra dealers, not coconut planters, to be licensed.

"4. Further I am to say that it would appear to members of this Association that the Chief Secretary is in possession of some information which would prove that the licensing of copra dealers would be against the interests of copra producers. If this is so, I am instructed to ask you to extend this information to the Association.

"I have, etc.,

"(Sd.) C. WARD-JACKSON,

"*Secretary.*

"THE HON. THE CHIEF SECRETARY TO GOVERNMENT,

"FEDERATED MALAY STATES,

"KUALA LUMPUR."

Mr. GRAY says that those who are interested in the matter still think something should be done to keep it before the Government. The members of the Association were not all interested in copra; but the licensing of dealers in that commodity would affect the whole country. The Lower Perak District

Planters' Association think and feel, that only the Planters' Association of Malaya can achieve anything in the matter and that it is the duty of the Planters' Association of Malaya to protect the interests of all estates, whether coconut or rubber. The majority of members would agree with him when he voiced the opinion that there was an enormous loss suffered by estates on account of the theft of their produce. The majority of those present would agree that the numerous letters which had passed between the Government and the Planters' Association of Malaya had not been productive of very good results, and in this instance he would like to propose a method of approaching Government which in his humble opinion should be employed more frequently by the Planters' Association of Malaya—namely, that a deputation of members should wait upon the Chief Secretary in regard to the subject. He reads the following excerpt from a report of a speech made by Mr. David Scott, Chairman of the Arcadia Coconuts, Ltd., at a meeting of the shareholders held in Colombo last month :—

"You will note what has been said in the report with regard to loss by pilferage which so far as 'Arcadia' was concerned amounted to over three per cent. Our Straits friends advise us that the percentage lost cannot in their opinion be regarded as unsatisfactory, in view of the fact that during the past year losses on other estates' consignments of copra have occurred up to 14 per cent. I might add that at one time our agents in the F.M.S. insured against loss over five per cent. but the losses were occasionally so large, that the insurance company eventually refused to accept the risk.

"Efforts are still being made to persuade Government to license copra dealers, and I can only express the hope that this will be speedily achieved and that would have the immediate result of putting a stop to a most iniquitous and disgraceful state of affairs"

Mr. Ferguson has much pleasure in seconding Mr. Gray's proposal which is agreed to.

Mr. Gray suggests that the deputation should consist of Messrs. J. Bruce, W. Duncan and A. N. Kenion.

Mr. Ferguson proposes that the names of Messrs. G. Glassby and W. R. C. Gray be added to the list.

Mr. Bruce thinks that a deputation of three members would be sufficient, and he suggests Mr. Gillespie's name instead of his own as he himself knows very little about coconuts and copra. He does not think that Mr. Kenion should be invited to serve on the deputation as he is not a member of the Association.

Mr. Gray thinks it most advisable that Mr. Bruce, as Acting Chairman of the Association, should consent to be one of the deputation.

Mr. Bruce agrees.

After some discussion the following gentlemen are elected to form the deputation :

Messrs. J. Bruce, W. Duncan, H. J. Gillespie, W. R. C. Gray and James French.

8.—DISTRICT NURSES.

The SECRETARY submits the following statements showing European population on estates which are members of the Association:

EUROPEAN POPULATION ON ESTATE.

	Men.	Women.	Children.	Total.
Kajang	73	21	14	108
Kapar	50	22	12	84
Klang	51	17	15	83
Kuala Selangor ...	80	34	19	133
Kuala Lumpur ...	74	35	16	125
Batang Padang ...	60	19	7	86
Lower Perak ...	69	16	8	93
Taiping	84	30	18	132
Central Perak ...	95	17	26	138
Batu Tiga ...	50	19	11	80
Johore	118	—	—	118
Ulu Selangor ...	43	12	8	63
Bahau, Kuala Pilah	35	7	6	48
Krian, Kedah and Province Wellesley	76	56	33	165
Kuala Langat ...	25	8	4	37
Central Pahang ...	16	2	2	20
Negri Sembilan ...	261	62	37	360
Kelentan	58	10	4	72
Total ...	1,318	387	240	1,945

Mr. BRUCE says the object in obtaining these figures is to press for the increase of the number of district nurses and for more accommodation in maternity hospitals throughout the country and especially in Kuala Lumpur. He suggests that the matter now be left to the Standing Committee to take further action.

This is agreed to.

9.—NIGHT TELEPHONE SERVICE.

The SECRETARY states that at a previous meeting of the Association it was agreed to send a deputation to the Resident of Selangor on the question of telephone exchanges in the State of Selangor being opened for night service. He says the Resident very kindly informed him by telephone yesterday that very shortly all telephone exchanges throughout the State of Selangor will be opened for night service.

Mr. BRUCE is sure that members interested will be very pleased with the Resident's action in this matter.

10.—GENERAL.

The SECRETARY submits the following correspondence:

"PUBLIC WORKS DEPARTMENT, F.M.S.,
"DIRECTOR'S OFFICE,
"KUALA LUMPUR,
"*23rd June, 1920.*

"D. P. W. No. 696/20.

"SIR,

"I have the honour to enquire whether your Association could kindly assist me in my endeavour to compile an estimate of the road traffic in rubber growing areas, with estates in bearing.

"2. This may be best effected if an estimate could be given of the tonnage that is required to pass over a road, in order to serve a thousand acres of rubber in bearing, it should include the carriage of all estate supplies, and the export of all produce—per month.

"3. Any other information which your Association may consider has a bearing on this subject would also be appreciated.

"I have, etc.,
"W. E. KENNY,
"*Ag. Director Public Works, F.M.S.*

"THE SECRETARY,
"PLANTERS' ASSOCIATION OF MALAYA,
"KUALA LUMPUR."

Mr. BRUCE suggests that the matter be given consideration by the Standing Committee.

This is agreed to.

The SECRETRAY tables a pamphlet about the Nilgiri Hills which Mr. J. Bloomfield Douglas has asked him to bring to the notice of members. He says a number of copies are available for any planter who may be interested.

The SECRETARY reads a letter he has received from Dr. Malcolm J. Rattray on the subject of the formation of a Malay Peninsula Branch of the Society for the Prevention of Venereal Diseases.

With a vote of thanks to the chair, the meeting terminates at 12.30 p.m.

C. WARD-JACKSON,
Secretary.

APPENDIX.

RULES OF THE PLANTERS' ASSOCIATION OF MALAYA.

1. The name of the Association shall be THE PLANTERS' ASSOCIATION OF MALAYA.

2. The object of the Association is to represent, protect and advance the Planting Industry of Malaya.

3. The head-quarters and office of the Association shall be in Kuala Lumpur.

4. The Association shall consist of the Chairman and Vice-Chairman for the year and of Constituent Associations.

5. The Standing Committee shall have power to admit to membership any existing Association of planters in the Malay Peninsula and any such Association that may be established, such bodies shall thereupon become Constituent Associations and shall be entitled to the same benefits and be subject to the same obligations as the other Constituent Associations of the Planters' Association of Malaya.

Applications for membership shall be made in a form to be prescribed by the Standing Committee and may be acceded to or refused at their discretion.

6. Each Constituent Association shall register with the Secretary not later than January 31st each year all data required for calculating the amount of subscriptions which shall be due to the Association for the ensuing year, and such further statistics as may be required by the Standing Committee.

7. The annual contribution from each Constituent Association shall be assessed on such basis as may be determined once a year at the annual general meeting, and shall become due and payable on election and thereafter on the 1st day of May in every year, and thereafter no Constituent Association shall have the right of voting or otherwise enjoy any of the privileges of the Association until such annual subscription shall have been paid.

8. General meetings shall consist of members of Constituent Associations.

A general meeting of the Association shall be held in the month of May in every year. Such meeting shall be called the annual general meeting.

At such meeting all members of Constituent Associations shall have the right to attend and vote. One month's notice of any resolution or business to be brought before such annual meeting shall be given in writing to the Secretary. This meeting shall:

(i) Receive the accounts and report of the past financial year, which shall close on the 31st of March of every year;

(ii) Elect or declare elected a Chairman and Vice-Chairman for the current year;

(iii) Receive estimates and determine the amounts and basis of subscription for the current year;

(iv) Transact any other business which may rightly be brought before the meeting, or of which due notice shall have been given.

9. Meetings of delegates shall be called ordinary meetings. Ordinary meetings shall be held quarterly, and at such meetings each Constituent Association shall be represented by one delegate for every 10,000 or part thereof of the planted acres represented by its members, and such delegates shall have one vote.

10. Emergency ordinary meetings may be convened at any other time by the Standing Committee.

11. At such general and ordinary meetings, twenty members present in person shall be a quorum.

12. The following notice of meetings shall be given:

(i) In the case of general and ordinary meetings not less than 21 days by letter;

(ii) In the case of emergency ordinary meetings not less than seven days by telegram.

13. Visitors may attend at any general or ordinary meeting of the Association, and, with the permission of the Chairman, may address the meeting.

14. Candidates for the Chair and Vice-Chair must be nominated by a Constituent Association, and the persons nominated must signify in writing their willingness to be so nominated.

All nominations must be in writing on a form to be prescribed by the Standing Committee and obtainable on application to the Secretary, and should reach the Secretary, not later than March 15th, each year.

15. The names of candidates duly nominated shall be placed on the agenda for the annual general meeting and only such candidates shall be eligible. Provided that should no candidate have been nominated as aforesaid, the annual general meeting shall elect the Chairman and Vice-Chairman for the ensuing year.

16. Voting for the election of Chairman and Vice-Chairman shall be by voting papers on a form to be prescribed by the Standing Committee issued to all members of Constituent Associations at least 15 days before the annual general meeting.

17. The Chairman and Vice-Chairman of the Association shall hold office for one year only, but shall be eligible for re-election,

18. The Standing Commitee shall have the following general powers and duties:

(*a*) To deal with matters of importance requiring immediate decision;

(*b*) To make and give receipts, releases and other discharges for moneys payable to the Association and for the claims and demands of the Association and to delegate such powers to the Secretary or Treasurer of the Association or any one or more of its number;

(*c*) To delegate, subject to such conditions as they may think fit, any of their powers to sub-committees of such member or members of the Association, who may or may not be members of the Standing Committee, as they may deem expedient, and to make such representations as to the proceedings of such sub-committees as they may deem proper.

(*d*) To appoint, suspend or remove the Secretary, Treasurer or other servants of the Association and fix their remuneration and determine their duties.

(*e*) To co-opt additional members, provided always that the total number of members of the Standing Committee shall not exceed 25. One of the additional members so co-opted shall be nominated by the Constituent Association or Associations domiciled in the State of Pahang until such time as Pahang shall become entitled to representation under the schedule in rule 19 hereof.

(*f*) From time to time to provide for the management of the affairs of the Association in such manner as they may think fit, and generally to do all such things as they think expedient for the purposes of the Association.

19. The Standing Committee shall be declared elected at each annual general meeting and this shall be composed of the Chairman and Vice-Chairman of the Association *virtute officii* and of members to be elected by Constituent Associations.

These members shall be elected on the basis of the planted area of each State or Territory as represented by the Constituent Associations of that State or Territory and such elected members shall be the representatives on the Standing Committee for that State or Territory.

The allotment of representatives for each State or Territory shall be calculated according to the following schedule:

Over 180,000 planted acres	...			5	representatives
Under 180,000 and over 140,000 acres				4	,,
,, 140,000	,,	100,000	,,	3	,,
,, 100,000	,,	60,000	,,	2	,,
,, 60,000	,,	15,000	,,	1	,,
,, 15,000		...		No	,,

Before the last day of February, each year, the Standing Committee shall draw up a statement showing the acreages represented and shall allocate such acreages to each State according to its geographical situation or according to the situation of the recognized office of such Constituent Association, or in any other way that may be deemed to be fair and reasonable. A summary of this allocation shall then be distributed to each Constituent Association and in accordance with the above schedule the number of representatives for that State on the Standing Committee shall be determined and notified to each Constituent Association.

Voting papers for such number of representatives shall be sent to each Constituent Association and such voting papers shall be filled in by such Constituent Association and returned to the Secretary before the last day of March each year. Such voting papers must be signed by the Chairman and Secretary of each Constituent Association.

The chosen representatives need not necessarily be resident in the State or Territory to which the Constituent Association belongs.

The names of the chosen representatives will be notified at the annual general meeting, and declared elected.

In the event of any matter or business especially concerning an individual Constituent Association being brought before the Standing Committee, that Association shall have the right to send a representative to the meeting of the Standing Committee to express the views of his Association.

20. The Association shall have power to elect as Honorary Members such persons as they shall think fit; but such persons shall not be entitled to vote at any meeting of the Association. Notice of any proposal for the admission of an Honorary Member together with the names of the proposer and seconder of such Honorary Member, shall be given to the Secretary of the Association at least 14 days previous to the meeting at which the election of such Honorary Member shall take place, and the Secretary shall put on the agenda for such meeting the name and address of such person and the names of the proposer and seconder.

21. All members, who shall have served the office of Chairman of the Association for at least one year, shall *ipso facto* become Honorary Members of the Association.

22. An instrument appointing a proxy shall be in the form and to the effect following:

23. I, the undersigned.....member of / delegate to the Planters' Association of Malaya, do hereby appoint..... .....a member of the Planters' Association of Malaya to be my proxy, to vote and act for me at the meeting which is to be held on the.....day of 19.....

Signature.....

Dated this.....day of.....19.....

A proxy is available for one meeting only, and requires a three-cent stamp which must be cancelled. It shall be deposited at the office of the Association at least three days before the time for holding the meeting.

24. The Chairman at the beginning of every meeting shall submit the minutes of the previous meeting for confirmation.

25. No proposal for altering the minutes shall be in order, except on a question of the accuracy of the said minutes.

26. In the event of there being no proposal for a correction of the minutes and in the event of there being such a proposal and of it being agreed to by a majority of members present, the Chairman shall certify the minutes as correct and confirmed, after having in the second event corrected them accordingly.

27. Any alteration of or addition to the rules of the Association shall require a majority of two-thirds of members represented at the annual general meeting convened for that purpose.

28. In the event of any question or matter arising not provided for in the rules, the decision of the majority shall in all cases be final.

Summary of Padi Returns, Federated Malay States and Straits Settlements and the Non-Federated Malay States, for Season 1919-1920.

Compiled by Raja Mahmud.

Federated Malay States.

	Wet.			Dry.		
	Area.	Yields.	Average.	Area.	Yields.	Average.
Perak.						
Batang Padang ..	1,220	50,071	41	10,194	629,692	61
Kinta	774	30,124	38	6,745	339,918	50
Lower Perak	2,345	619,360	264	11,607	2,108,149	181
Kuala Kangsar ...	12,604	2,356,707	186	4,258	424,453	99
Larut, Matang and Selama	10,378	1,468,145	141	3,221	334,540	103
Krian	51,368	15,936,394	310	1,466	147,315	100
Upper Perak	3,919	949,650	242	3,421	670,109	195
Total Perak ...	82,608	21,410,451	259	40,912	4,654,176	113
Selangor.						
Klang	...	...	...	603	8,460	very poor
Kuala Lumpur ...	613	106,290	173	253	12,470	49
Ulu Langat	2,310	222,000	96	961	68,485	71
Kuala Langat... ...	50	6,000	120	100	1,000	very poor
Ulu Selangor... ...	290	15,115	52	46	1,226	26
Kuala Selangor ...	1,000	30,240	30	5,215	721,308	138
Total Selangor ...	4,263	379,645	89	7,178	812,949	113
Negri Sembilan.						
Seremban	3,545	415,597	117	211	13,661	65
Coast	300	13,860	46	136	5,400	39
Kuala Pilah	13,536	2,630,925	194	242	32,300	133
Tampin	8,602	1,979,926	230	477	50,030	104
Jelebu	2,590	308,200	118	...	...	...
Total N. Sembilan ...	28,573	5,348,508	187	1,066	101,391	94
Pahang.						
Kuala Lipis	5,066	780,173	154	2,789	393,703	141
Temerloh	9,885	1,591,890	161	253	41,150	162
Raub	4,991	891,583	178	846	72,600	85
Pekan	4,794	559,912	116	1,506	104,596	69
Kuantan	1,877	169,834	90	862	57,104	66
Total Pahang ...	26,613	3,993,392	150	6,256	669,153	107
Grand Total F.M.S.	142,057	31,131,996	219	55,412	6,237,670	112

Summary of Padi Returns, Federated Malay States and Straits Settlements and the Non-Federated Malay States, for Season 1919-1920—(cont.)

STRAITS SETTLEMENTS.

	Wet.			Dry.		
	Area.	Yields.	Average.	Area.	Yields.	Average.
Singapore	...	...	...	...	...	...
Penang	135	31,250	231	...	...	...
Malacca	27,265	6,764,250	248	...	...	...
P. Wellesley	25,238	7,421,529	294	1,000	152,440	152
Dindings	296	27,650	93	510	59,900	117
Total S.S. ...	52,934	14,244,679	269	1,510	212,340	140

NON-FEDERATED MALAY STATES.

Perlis	20,400	4,076,510	199	..	...	very small
Kedah	191,700	26,838,000	140	1,988	348,000	175
Kelantan	75,000	13,500,000	180	67,000	7,500,000	111
Trengganu	7,500	1,500,000	200	3,330	500,000	150
Johore	5,000	1,250,000	250	4,000	400,000	100
Total Non-F.M.S. ...	299,600	47,164,510	157	76,318	8,748,000	114

Comparative Statement of Cultivation of Rice (Wet and Dry) in the Federated Malay States for the Seasons 1917-1918, 1918-1919 and 1919-1920 with Statement of Gross and Average Yields.

SUMMARY.

Seasons. / State.	1917-1918. Area, acres.	1917-1918. Yields, gantangs.	1917-1918. Average per acre, gantangs.	1918-1919. Area, acres.	1918-1919. Yields, gantangs.	1918-1919. Average per acre, gantangs.	1919-1920. Area, acres.	1919-1920. Yields, gantangs.	1919-1920. Average per acre, gantangs.
WET PADI.									
Perak	73,823	19,924,756	270	77,838	15,117,549	194	82,608	21,410,451	259
Selangor	2,370	474,000	200	3,013	612,154	203	4,263	379,645	89
Negri Sembilan	24,691	4,471,330	181	28,214	4,806,476	170	28,573	5,348,508	187
Pahang	22,746	3,588,447	157	21,290	3,029,834	142	26,613	3,993,392	150
Federated Malay States	123,630	28,458,533	230	130,355	23,566,013	180	142,057	31,131,996	219
DRY PADI.									
Perak	7,828	1,046,215	133	16,500	2,532,140	153	40,912	4,654,176	113
Selangor	470	70,500	155	2,034	294,250	144	7,178	812,949	113
Negri Sembilan	50	6,210	124	216	23,740	109	1,066	101,391	94
Pahang	4,590	450,156	98	4,517	348,330	77	6,256	669,153	106
Federated Malay States	12,938	1,573,081	121	23,267	3,198,460	137	55,412	6,237,670	112

Abstract of Meteorological Readings in the various districts of Malaya for the month of April, 1920.

District.	Mean Barometrical Pressure at 32° Fah.	Maximum in Sun.	Temperature.				Hygrometer.				Prevailing Direction of Winds.	Total Rainfall.	Greatest Rainfall during 24 hours.
			Mean Dry Bulb.	Maximum.	Minimum.	Range.	Mean Wet Bulb.	Vapour Tension.	Dew Point.	Humidity.			
Kelantan, Kota Bahru	...	147.0	83.4	92.16	73.56	18.60	78.0	.848	74.3	74.	...	.33	.23
Pahang, Kuala Lipis	...	...	82.17	89.60	76.13	13.47	76.73	...	...	...	...	7.48	1.70
Johore, Johore Bahru	...	...	...	88.86	73.83	15.3	...	...	...	...	...	11.43	2.89
Singapore, Kandang Kerbau ...	1008.5	157.5	83.1	88.9	75.1	13.8	78.4	.904	...	79.	Calm.	3.07	.79
Malacca, Durian Daun	1009.9	134.0	81.0	88.0	74.0	14.0	77.0	.913	...	82.	N.E.	10.76	1.89
Negri Sembilan, Seremban ...	...	147.8	80.3	88.3	73.3	15.0	75.6	.798	72.5	76.9	N.W.	15.64	6.18
„ Kuala Pilah ...	...	153.8	83.3	91.1	...	...	80.7	.952	80.1	81.4	...	3.75	1.27
„ Port Dickson	...	115.0	82.0	89.3	74.8	14.5	77.8	.876	75.2	80.5	...	12.75	3.26
Selangor, Kuala Lumpur ...	...	154.0	81.7	89.6	72.2	17.4	78.1	.884	75.4	81.0	Calm.	15.02	2.12
„ Klang	...	...	79.9	84.6	75.2	9.4	76.9	...	...	...	...	10.20	2.13
„ Kuala Selangor ...	...	...	...	88.8	75.1	13.7	...	...	...	...	...	4.85	1.10
„ Rawang	...	...	...	90.9	72.7	18.2	...	...	...	...	...	8.43	1.19
Perak, Teluk Anson	...	...	81.95	93.0	68.0	25.0	78.02	.999	...	85.	...	13.26	2.24
„ Ipoh	...	...	81.61	95.0	72.0	23.0	77.27	.878	74.17	83.	...	18.07	3.89
„ Taiping	...	107.	80.06	92.0	69.0	23.0	77.19	.895	...	89.	...	35.88	3.93
„ The Cottage	...	...	...	...	...	...	...	...	...	...	...	24.78	4.93
„ Parit Buntar	...	...	82.87	92.0	72.0	20.0	78.70	.926	...	83.	...	11.77	2.16
Penang, George Town	1008.2	152.3	84.7	91.2	73.2	20.0	79.2	.911	69.5	77.6	S.E.	6.88	1.33
Kedah, Alor Star	...	...	...	...	...	...	...	...	...	...	...	8.48	1.65
Perlis, Kangar	...	...	...	91.36	73.83	17.53	...	...	...	...	...	11.71	1.50

Abstract of Meteorological Readings in the various districts of Malaya for the month of May, 1920.

District.	Mean Barometrical Pressure at 32° Fah.	Maximum in Sun.	Temperature.				Hygrometer.				Prevailing Direction of Winds.	Total Rainfall.	Greatest Rainfall during 24 hours.
			Mean Dry Bulb.	Maximum.	Minimum.	Range.	Mean Wet Bulb.	Vapour Tension.	Dew Point.	Humidity.			
Kelantan, Kota Bahru ...	...	143.56	83.5	93.16	74.16	19.00	77.8	.837	73.9	73.	...	7.80	2.23
Pahang, Kuala Lipis	...	...	82.14	89.48	75.80	13.68	80.13	...	...	...	...	7.60	2.00
Johore, Johore Bahru	...	...	...	88.88	74.06	14.74	...	...	...	...	...	8.69	2.06
Singapore, Kandang Kerbau ...	1008.8	159.0	84.4	89.5	75.8	13.7	79.2	.918	...	77.6	S.W.	2.87	.84
Malacca, Durian Daun ...	1009.9	134.0	82.0	88.0	74.0	14.0	78.0	.916	...	76.	N.E.	10.41	2.16
Negri Sembilan, Seremban ...	...	149.6	80.9	88.8	71.7	17.1	76.9	.832	74.0	79.3	N.W.	4.09	1.57
,, Kuala Pilah ...	...	154.0	83.5	98.7	...	...	80.4	1.244	77.6	86.6	...	3.25	1.25
,, Port Dickson	...	110.3	82.3	89.3	75.1	14.2	78.2	.878	75.4	80.2	...	5.44	1.70
Selangor, Kuala Lumpur ...	...	150.4	81.4	91.2	73.2	18.0	79.2	.882	75.4	80.	Calm.	7.47	2.28
,, Klang	...	...	81.6	85.9	75.6	10.3	77.6	...	...	...	...	6.19	1.49
,, Kuala Selangor ...	...	...	...	89.6	74.9	14.7	...	...	...	...	...	5.41	2.03
,, Rawang	...	...	...	91.0	72.2	18.8	...	...	...	...	...	5.32	1.32
Perak, Telok Anson	...	...	88.72	95.00	69.00	26.0	78.36	.912	...	83.	...	2.63	1.06
,, Ipoh	...	...	83.59	94.0	71.0	23.0	77.71	.873	75.08	77.	...	9.85	2.40
,, Taiping	...	111.0	82.62	94.0	70.0	24.0	79.08	.945	...	85.	...	6.53	1.53
,, The Cottage	...	...	...	...	...	...	...	...	...	...	...	17.48	4.48
,, Parit Buntar	...	...	83.71	93.0	72.0	21.0	79.22	.940	...	83.	...	10.23	2.99
Penang, George Town	1005.9	148.5	82.5	89.9	73.2	16.7	78.7	.933	69.6	84.7	N.E.	11.29	2.71
Kedah, Alor Star	...	...	...	...	...	...	...	...	...	...	...	5.41	2.20
Perlis, Kangar	...	...	...	90.97	76.61	15.36	...	...	...	...	...	3.78	.94

Abstract of Meteorological Readings in the various districts of Malaya for the month of June, 1920.

District.	Mean Barometrical Pressure at 32° Fah.	Maximum in Sun.	Temperature.				Hygrometer.				Prevailing Direction of Winds.	Total Rainfall.	Greatest Rainfall during 24 hours.
			Mean Dry Bulb.	Maximum.	Minimum.	Range.	Mean Wet Bulb.	Vapour Tension.	Dew Point.	Humidity.			
Kelantan, Kota Bahru	...	143.43	83.2	92.13	74.1	18.03	78.1	.857	74.6	75.	...	6.53	1.86
Pahang, Kuala Lipis	...	...	81.86	89.43	76.06	13.36	76.8	...	...	...	...	8.10	3.10
Johore, Johore Bahru	...	...	...	88.78	74.41	14.37	...	...	...	...	...	6.98	2.19
Singapore, Kandang Kerbau ...	1008.1	158.0	84.6	90.0	76.1	13.9	79.2	.921	...	77.	S.W.	2.24	.78
Malacca, Durian Daun	1009.2	140.0	82.0	88.0	74.0	14.0	78.0	.911	...	80.	N.E.	9.84	3.14
Negri Sembilan, Seremban ...	...	150.9	80.7	88.8	73.4	15.4	76.1	.814	72.9	78.	W.	2.18	1.22
„ Kuala Pilah ...	...	148.0	83.6	91.2	...	...	79.6	.983	79.6	84.8	...	4.33	2.22
„ Port Dickson	...	108.8	82.5	88.7	74.8	13.9	78.4	.889	75.6	80.5	...	8.05	2.71
Selangor, Kuala Lumpur ...	...	151.8	82.7	91.1	72.5	18.6	78.1	.874	76.7	78.	Calm.	10.42	1.20
„ Klang	...	...	81.6	86.3	75.3	11.0	77.2	...	...	...	...	4.15	3.36
„ Kuala Selangor ...	...	...	...	90.2	74.8	15.4	...	...	...	...	...	2.56	1.96
„ Rawang	...	...	...	90.1	72.6	17.5	...	...	...	...	...	4.12	1.82
Perak, Telok Anson	...	...	83.09	92.	71.	21.	78.08	.893	...	79.	...	3.58	1.80
„ Ipoh	...	...	83.34	94.	69.	25.	77.32	.857	74.95	75.	...	.62	.27
„ Taiping	...	112.	82.58	93.	70.	23.	78.62	.927	...	85.	...	5.11	1.88
„ The Cottage	...	...	...	...	...	...	...	...	...	...	...	11.14	2.08
„ Parit Buntar	...	...	83.32	92.	72.	20.	78.51	.911	...	81.	...	6.96	4.83
Penang, George Town	1008.3	147.3	82.7	86.7	71.9	14.8	74.7	.900	68.9	81.5	S.E.	8.14	1.88
Kedah, Alor Star	...	...	...	...	...	...	...	...	...	...	...	9.01	2.07
Perlis, Kangar	...	...	...	90.40	74.73	15.67	...	...	...	...	...	4.84	1.32